PACIFIC FISHERMAN

YEARBOOK NUMBER

January 25, 1955

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Dependable Quality!

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Conference of Pacific Coast Canned
Salmon Brokers

675 Colman Building
Seattle 4, Washington
MAin 4133

REFERENCE:
The National Bank of Commerce
of Seattle

PACIFIC FISHERMAN

YEARBOOK NUMBER

1955

January 25, 1955 **Volume 53, No. 2**

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CONTENTS

Special Features—

Directory of Fisheries 71
South America 139
Japanese Fisheries 161
Australia 181
Mid-Pacific 179
Mexican Shrimp 199

Salmon—

1954 General 81
Western Alaska 89
Central Alaska 95
Southeast Alaska 99
British Columbia 103
Puget Sound 107
Columbia River 107
Sockeye Science and Research 172

Tuna—

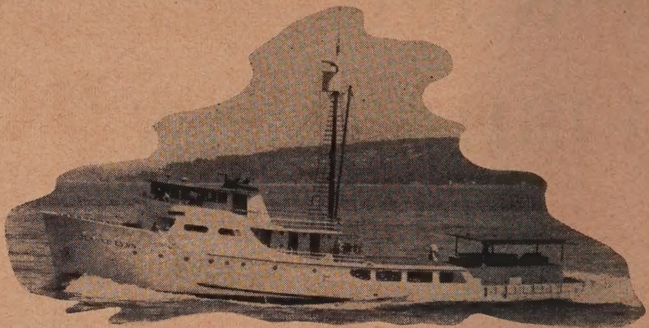
Southern California 115
Hawaii and Other Lightmeat 123
Pacific Northwest 127
Inter-American Tuna Research 133

Markets 151
Sardines 183
Mackerel 191
Shellfish 193
Halibut 205
Frozen Fish 215
By-Products 237

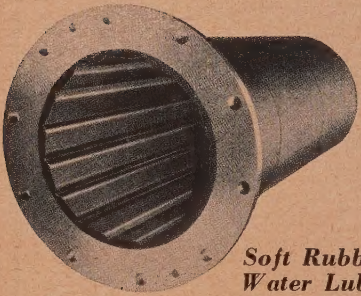
The Cover

● Antiquity of tuna's popularity is evidenced in the cover design of this Yearbook Number, which is the reproduction of the ornamentation on a Greek vase dating back perhaps as early as the Sixth Century B.C. It shows two Greeks preparing to dress a tuna, presumably for a feast, as indicated by their garlands. From such evidence in the art of the Mediterranean world, we know that tuna has been esteemed from the very beginnings of Man's civilization.

Keeps You Fishing



"Jeanne Lynn" Is Cutless Bearing Equipped



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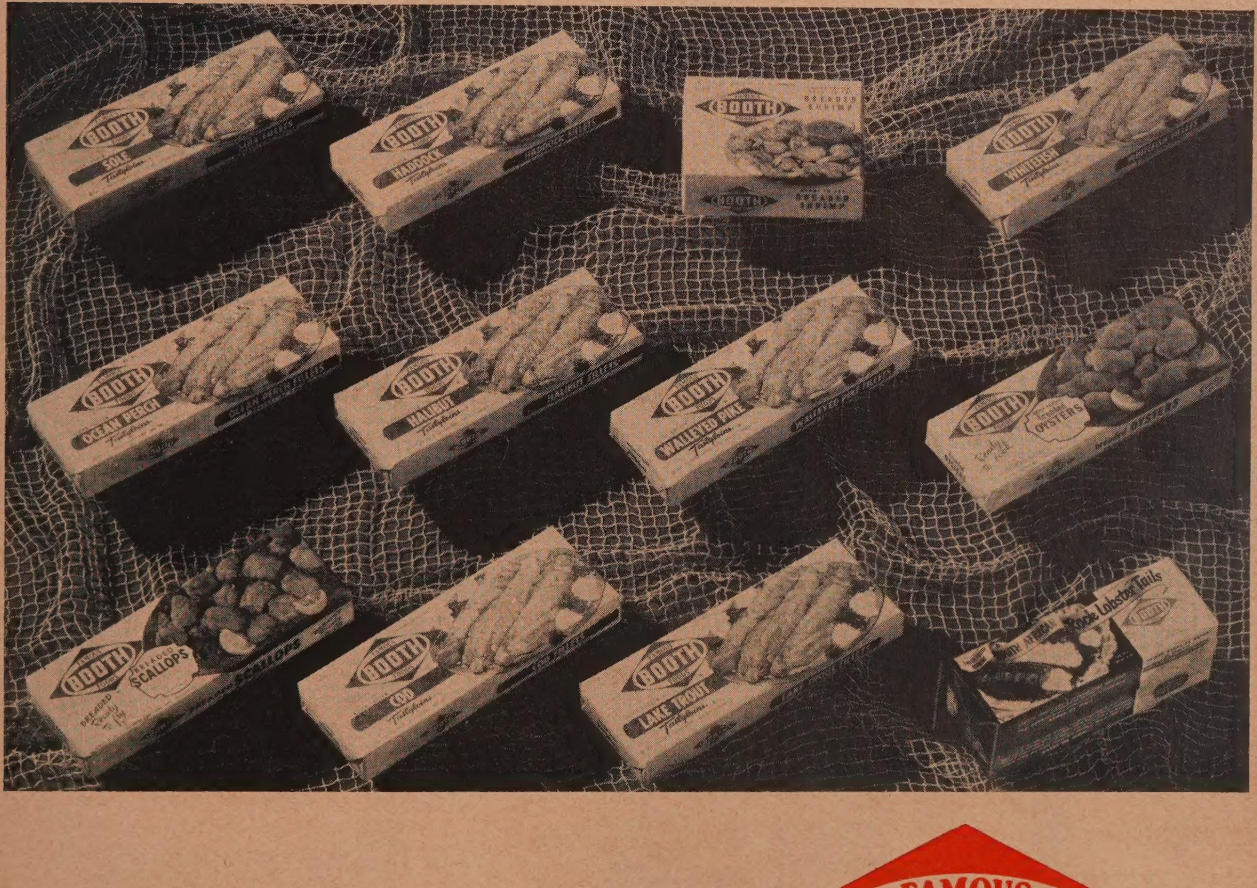
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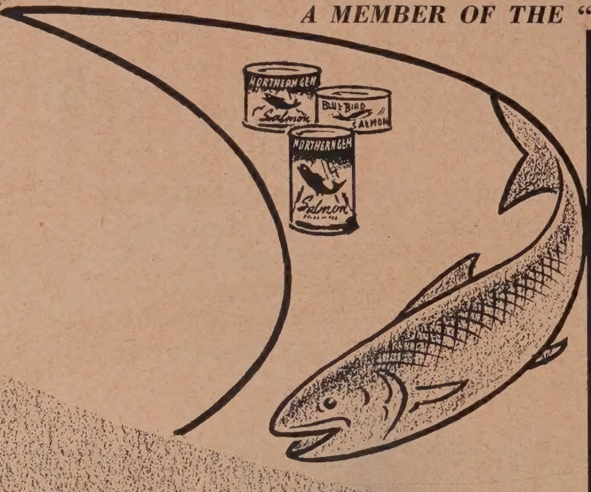

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on "The CAPITOL" HYC
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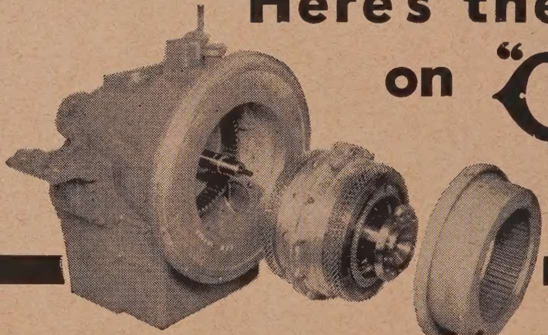

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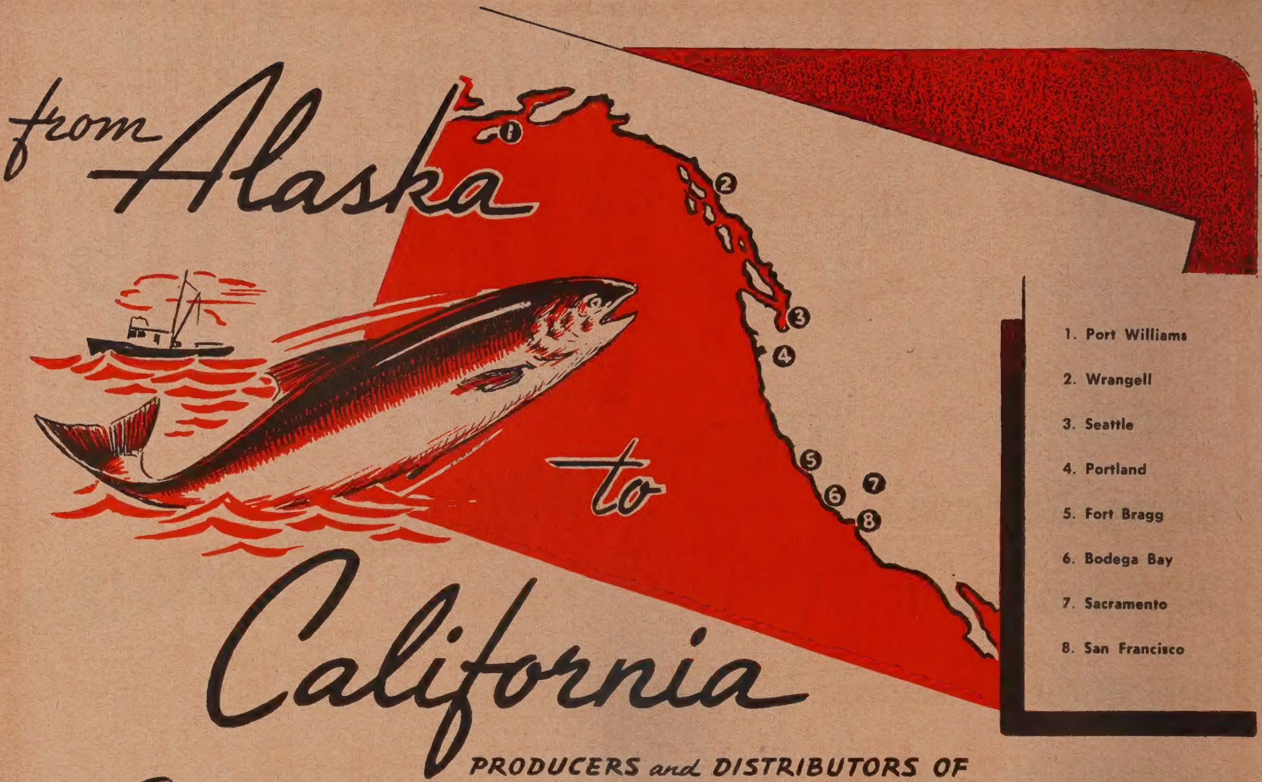
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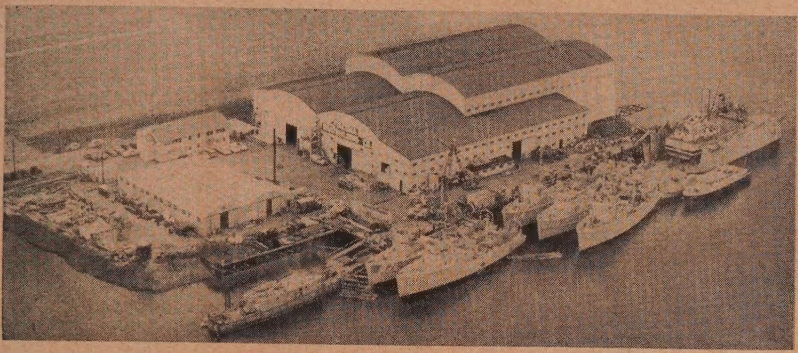

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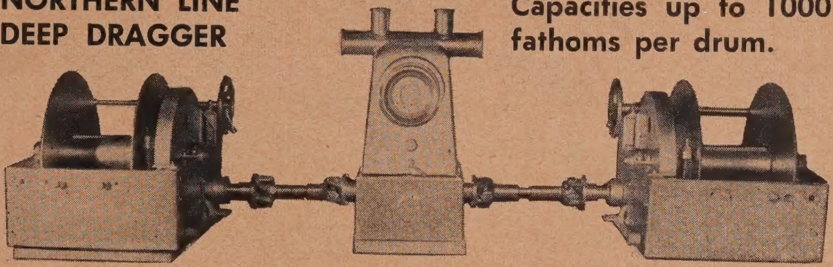

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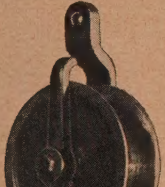

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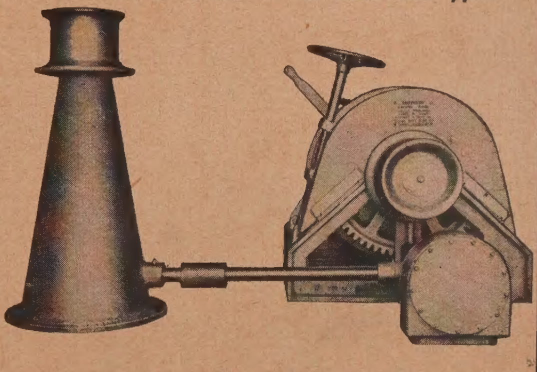

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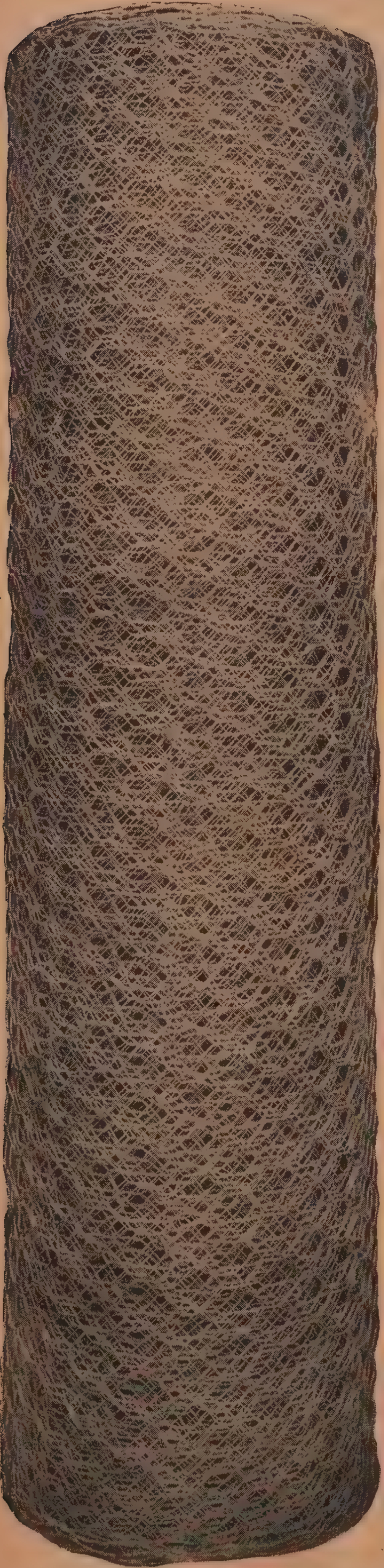

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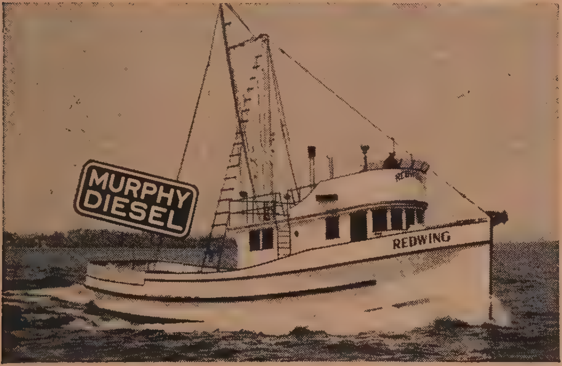
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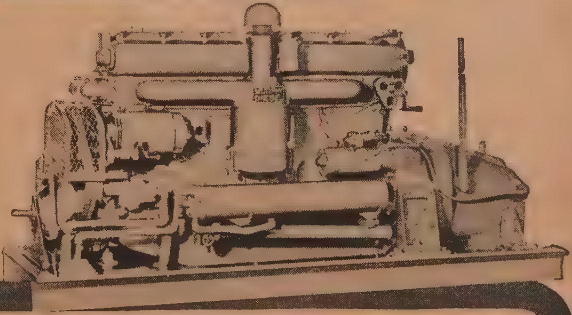

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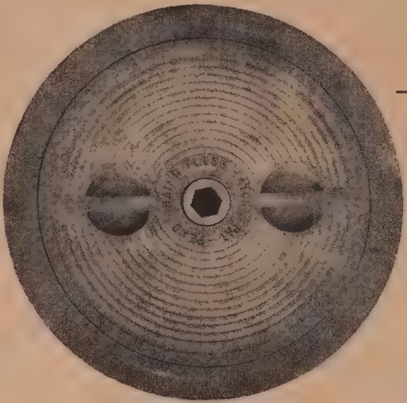

Top View: Positive Locking Type or Compression Type

Bottom View: Positive Locking Type

Bottom View: Compression Type

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THE INDUSTRY'S LARGEST AND MOST COMPREHENSIVE REFERENCE PUBLICATION FOR PACKERS OF CANNED, FROZEN, DRIED AND GLASS-PACKED FOODS.

This issue contains complete data covering:

FRUIT AND VEGETABLE PACKS
Western and U. S. packs of canned fruits and vegetables (packs by years, by product, by region, by containers).

FRUIT CROPS
Western and U. S. fruit acreage—crops—grower prices—crop utilization (by years, by products, by region).

VEGETABLE CROPS
U. S. processing vegetable acreage—crops—grower prices (by years, by product).
Western processing vegetable acreage and crops by states (data by years). Utilization of U. S. processing vegetable crops (tonnage canned, tonnage frozen, by years).

JUICES—CANNED—BOTTLED
Western and U. S. packs of canned and bottled heat-processed juices (packs by years, by product, by region, by containers).

FROZEN FOODS
Western and U. S. frozen fruit and vegetable packs (pack by years, by region, by container size, by product).

NON-SEASONAL FOODS
Packs by years for baby foods, fish, meats, milk, pet foods, poultry, soups, spaghetti, vegetables.

GLASSED FOODS
Western and U.S. glassed food packs (pack by years, by product, both narrow-neck and wide-mouth containers) for baby food, maraschino cherries, condiments, extracts, fruits, honey, juice, meat and poultry, olives, peanut butter, preserves, pickles, salad dressing, syrup, tomato products, vegetable oils, vegetables, vinegar.

DRIED FRUITS—NUTS
Western, U. S. and world dried fruit and nut packs and U. S. foreign trade (packs, imports, exports, by years, by variety, by region).

CITRUS JUICES
Frozen citrus juice and concentrate packs (by years, by product) canned heat-processed citrus concentrate packs, California citrus ade packs (heat-processed), U. S. juice imports.

**1955 EDITION*
MAKE YOUR RESERVATION TODAY!
WRITE TO:

ADVERTISING CLOSING DATE—APRIL 7
PUBLICATION DATE—MAY 25, 1955

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No.1 OVAL
No.½ FLAT

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market in cans by Canco

The fish packed in Canco cans get a kind of support that no other container manufacturer offers. For Canco brings fish canners a variety of specialized services, from technical advice in actual processing, to advertising support in consumer magazines, national in scope.

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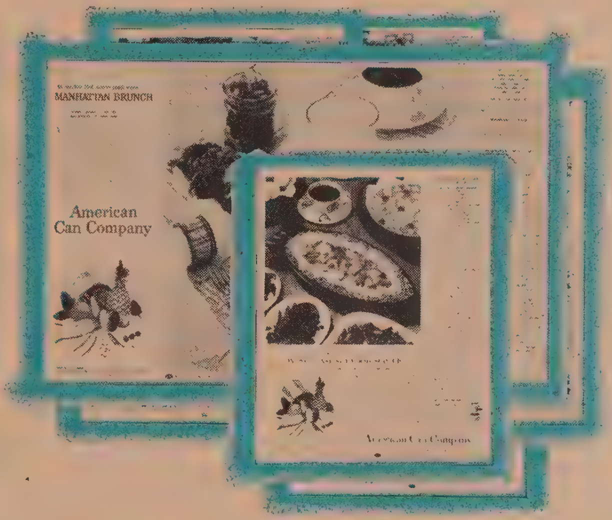
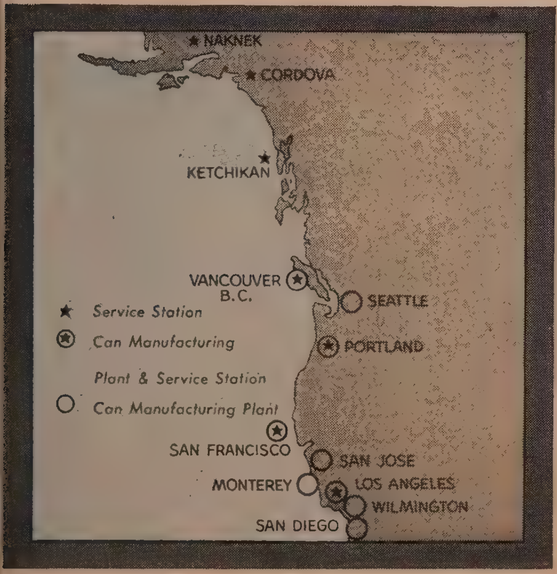
Let's Serve SALMON
Quick
Trick
Cookery
MINUTE MEALS & RECIPES

Recipes are developed in Canco's famous test kitchens and included in attractive recipe books which are widely distributed to home economics students and teachers . . . dietitians . . . nutritionists. Pictured here are three booklets recently published.


MANHATTAN BRUNCH
American Can Company


NAKNEK
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SAN DIEGO
★ Service Station
⊛ Can Manufacturing Plant & Service Station
○ Can Manufacturing Plant

Canco's plants and service stations are located strategically along the Pacific Coast from Naknek to San Diego. They stand ready to offer you technical advice or assistance—and quick delivery of the cans you need.

And—Canco features fish products in its spectacular consumer advertising campaign in *Life, McCall's* and *Good Housekeeping*. These full-color advertisements spread the word about the ease and convenience of *all* canned foods to housewives everywhere. They offer easy-to-follow recipes calling for a wide variety of canned foods, including many fish products.

No other container manufacturer offers you this kind of support. Your sales are our sales; your prosperity is our prosperity. Canco salutes the great Pacific fishing industry—may we continue to grow together.

Go first to the people who are first! CANCO

AMERICAN
CAN
COMPANY

New York, Chicago, San Francisco; Hamilton, Canada

QUALITY OUR FIRST CONSIDERATION

FIDALGO ISLAND PACKING CO.

2360 Commodore Way
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PACKERS & DISTRIBUTORS

ALL GRADES

ALASKA & PUGET SOUND

SALMON

SELLING AGENTS
H. BELL-IRVING & CO., LIMITED
VANCOUVER, B. C.

QUALITY OUR FIRST CONSIDERATION

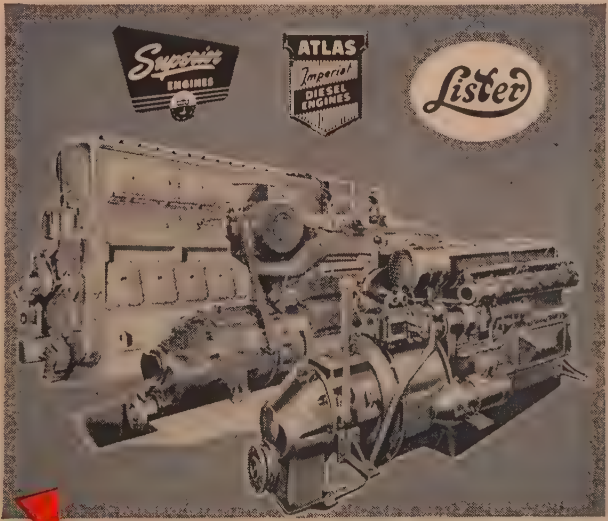
FISHING COSTS STAY LOW BECAUSE . . . . . .

they all enjoy economical diesel power!

THIS 103-FOOT DRAGGER depends upon a rugged 400 hp Superior Diesel for long trips and record hauls in the North Atlantic. Even under adverse conditions, Superior Diesels mean reliable, low-cost propulsion, and establish records for long life.

THIS FIRST PURSE SEINER built in Australia is powered by a 240 hp Atlas Diesel. The simple design of Atlas Engines means easy maintenance and lower weight per horsepower—while precision parts and heavy-duty frame insure exceptionally long life.

THIS WEST COAST SCHOONER uses a Lister FR2 to operate its refrigeration compressor and electric generator. Fishermen find that Lister's unique dual combustion chamber insures easy starting and fuel economy, in every type of auxiliary service.



IN THE WIDE RANGE of 4 to 1765 hp there's a Superior, Atlas and Lister Diesel for every marine power application. You can get complete information on these economical engines at the nearest sales and service office listed below.

DIESEL
DUAL FUEL
GAS

THE NATIONAL SUPPLY COMPANY
NSCO
ATLAS DIESEL ENGINES
Superior ENGINES
DISTRIBUTOR OF Lister
DIESELS IN U.S.A.

THE NATIONAL SUPPLY COMPANY

ENGINE DIVISION PLANT AND GENERAL OFFICES: SPRINGFIELD, OHIO

SALES AND SERVICE POINTS: Gloucester, Massachusetts • Houston, Texas • Fort Worth, Texas • San Diego, California • Oakland, California • Terminal Island, California • Ketchikan, Alaska • Washington, D.C. • Chicago, Illinois • Portland, Oregon • Astoria, Oregon • Casper, Wyoming • St. Louis, Missouri • Halifax, Nova Scotia • Vancouver, B. C. • Park Rapids, Minnesota • New York, New York • Seattle, Washington • New Orleans, Louisiana • Pittsburgh, Pennsylvania

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LIMITED

Established 1888

LONDON LIVERPOOL GLASGOW

CANNED SALMON
PILCHARDS
CRAB
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And All Other Canned Foods

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Also at
64 STANLEY STREET, LIVERPOOL and 54 MILLER STREET, GLASGOW

TELEGRAPHIC ADDRESS: FONTANELS, LONDON

ALL CODES USED

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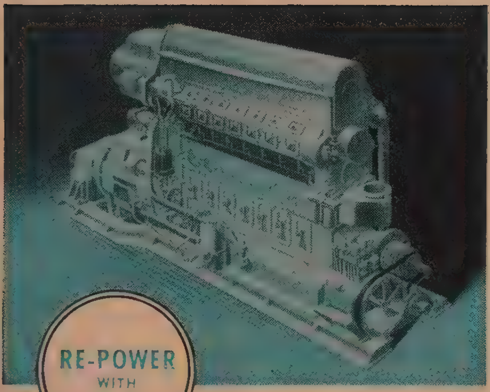
He's spending more time at sea... that's why



Model 38F Marine O-P Diesel for the 225 to 750 horsepower class.

"He's spending more time at sea, that's why we see him less these days . . . and all because of something called Re-Powered with O-P."

Yes, there is a lot of talk on shore these days about those boats that have been re-powered with the newest in marine diesel power —the Fairbanks-Morse Opposed-Piston engine in the 225 to 750 horsepower class.

For this engine was specifically designed for putting more power, more speed and more performance in your engine space when you re-power. How? This engine is a *completely* packaged marine unit with all accessories . . . lube oil cooler, filters, pumps, heat exchanger and attendant piping engine mounted. Add to this the inherent compact design of the O-P engine that is 20% less in length and width . . . weighs about 20 pounds per horsepower . . . and you see why the new Model 38F offers you more power, more speed, more performance—in less space than with any other diesel engine.

There are more facts on the 38F that will be of great interest to you—low maintenance, reliability and economy. Call your nearby Fairbanks-Morse Marine Specialist—you'll be glad you did when *you* start spending more time at sea. Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE

a name worth remembering when you want the best

DIESEL AND DUAL FUEL ENGINES • DIESEL LOCOMOTIVES • RAIL CARS • ELECTRICAL MACHINERY
PUMPS • SCALES • HOME WATER SERVICE EQUIPMENT • FARM MACHINERY • MAGNETOS

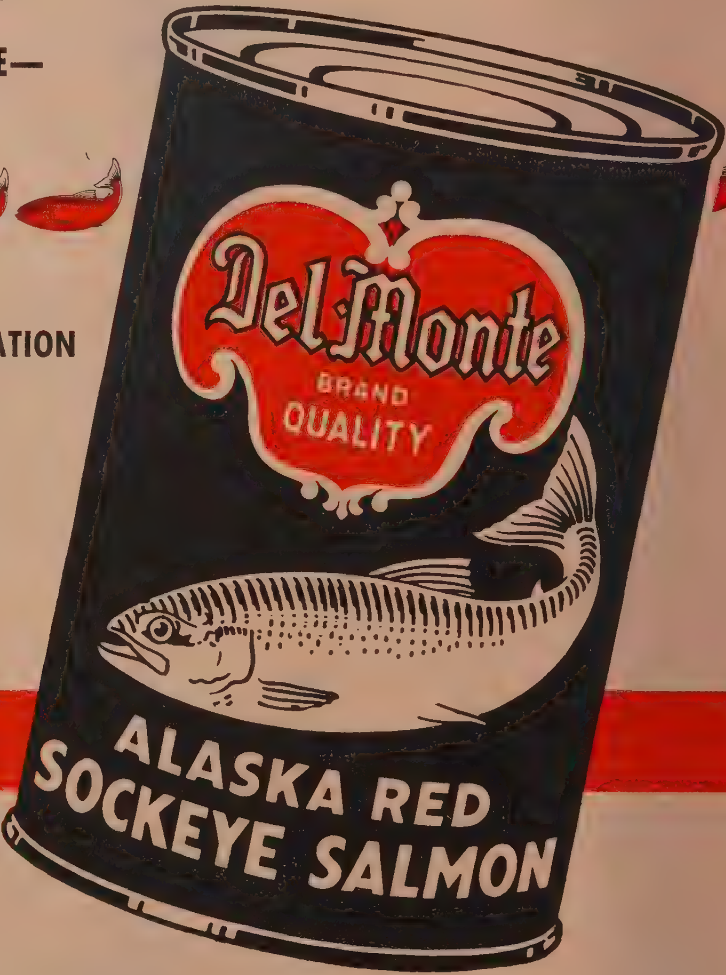
Always

the same world-famous quality year in—year out!

Del Monte Salmon is packed with careful control, the same rigid requirements that distinguish all Del Monte Brand Products. You can be sure your customers will give it first preference.

Years of effective advertising have indelibly stamped the familiar Del Monte Shield in the minds of millions of consumers. It's the label they remember...and instantly recognize as the brand that puts *flavor first*...ALWAYS!

**DEPEND ON DEL MONTE—
YOUR CUSTOMERS DO!**



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San Francisco, California

Longfibre

Kraft
Corrugated
Shipping
Containers

for

Salmon
Oysters
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Mackerel
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Longview Fibre Company

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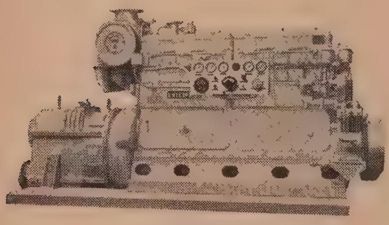
Longview, Washington

MARINE DIESEL ENGINES

For Every Heavy-Duty Application

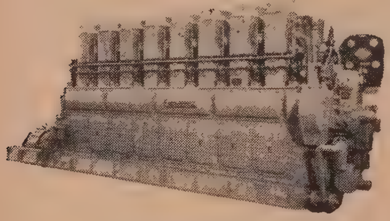
M Series 8″ Bore x 10″ Stroke



MODEL DMM-36

MODEL	HP	RPM	KW*
DMM-3	73-162	450-1000	47-108
DMM-4	97-216	450-1000	63-146
DMM-6	146-324	450-1000	98-222
DMM-36	274-609	450-1000	186-424
DMM-8	194-432	450-1000	130-298
DMM-38	366-812	450-1000	252-569

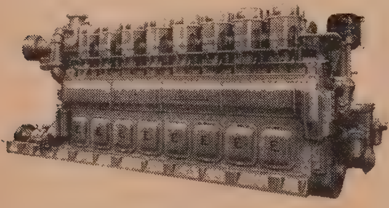
G Series 12″ Bore x 15″ Stroke



MODEL DMG-8

MODEL	HP	RPM	KW*
DMG-6	273-655	250-600	185-456
DMG-36	482-1157	250-600	332-811
DMG-8	364-874	250-600	250-612
DMG-38	643-1542	250-600	445-1090

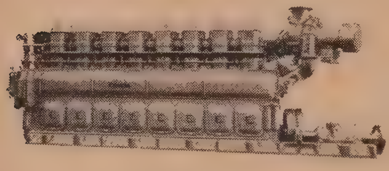
Q Series 16″ Bore x 20″ Stroke



MODEL DMQ-38

MODEL	HP	RPM	KW*
DMQ-6	647-971	250-375	450-682
DMQ-36	1142-1713	250-375	801-1210
DMQ-8	863-1295	250-375	605-908
DMQ-38	1523-2285	250-375	1068-1624

R Series 17″ bore x 21″ Stroke



MODEL DMR-38

MODEL	HP	RPM	KW*
DMR-6	767-1151	250-375	536-806
DMR-36	1354-2031	250-375	952-1442
DMR-8	1023-1535	250-375	719-1085
DMR-38	1805-2708	250-375	1275-1935

*Minimum to maximum range at 50 to 60 cycle.

Specify Quality-Built Enterprise Diesels for Dependable, Low-Cost Heavy-Duty Marine Power

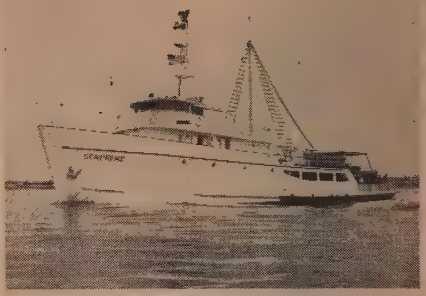
From the ENTERPRISE line of heavy-duty diesels, you can choose the correct model with highest efficiency for your particular requirements. Owners of tugs, towboats, fishing boats, tankers, cargo vessels and yachts rely on these engines for their long-proven dependability, compactness, favorable weight-to-horsepower factor, easy maneuverability, with operating and maintenance economy. Such developments as the new ENTERPRISE Single-Lever Hydraulic Control System have greatly simplified engine and boat control. ENTERPRISE Diesels may be specified for direct propulsion, diesel-electric propulsion, gear-driven propulsion in single or multiple units, and for auxiliary ship's service. Literature on all engines and applications is available on request. Please outline your specific requirements. Write for information and the address of our sales and service representative nearest you.

E ENTERPRISE

Enterprise
DEPENDABLE
Engines

ENTERPRISE ENGINE & MACHINERY CO.
A Subsidiary of General Metals Corporation
18th & Florida Sts., San Francisco 10, California

Diesel Engines • Dual Fuel Engines
Oil Burners
Vertical Hammermills • Dewatering Presses



KNOW THE EXTRA VALUES OF ENTERPRISE BEFORE YOU BUY YOUR NEXT DIESEL ENGINE

There's a lot in knowing what goes on behind the scenes that contributes to the overall *long-term value* of a product. Comparison of ratings or the exterior design of two engines may reveal only minor differences.

For a better evaluation of ENTERPRISE Diesels and service, therefore, we have set down a few of the more important considerations that you should know about these engines:

- **Every ENTERPRISE Engine** is Custom-Built—*precision*-built—to your exact power and installation requirements. Your engine is designed, built, equipped, tested and installed to do its specific job with greatest possible efficiency.
- **Conservative Ratings** assure ample power reserve for emergency or sustained overloads. There is no sacrifice in efficiency, with long, trouble-free engine life.
- **ENTERPRISE Diesel Experience** in marine and stationary power reaches through 33 years and hundreds of outstanding installations. During this period ENTERPRISE has made many valuable contributions to improved diesel design and engineering development.
- **A Record of Profitable Operation** in both stationary and marine power everywhere! We will be glad to refer you to ENTERPRISE customers whose experience and documented savings will clearly describe the satisfaction you too will enjoy with this equipment.
- **ENTERPRISE Service Engineers** are highly competent and thoroughly qualified to supply every phase of service required in your diesel installation and operation.
- **Immediate Availability of Parts** from factory stocks located at major ports. Shipment of repair or replacement parts on short notice by air, land or sea is handled promptly and efficiently to meet the needs of the customer.

When you inquire, you will find that power problems very similar to yours have been successfully solved with the installation of ENTERPRISE dependable Diesels. You can rely on this highly specialized experience for the best answer to your needs. Write us today for full information, stating your specific power requirements.

fresh!

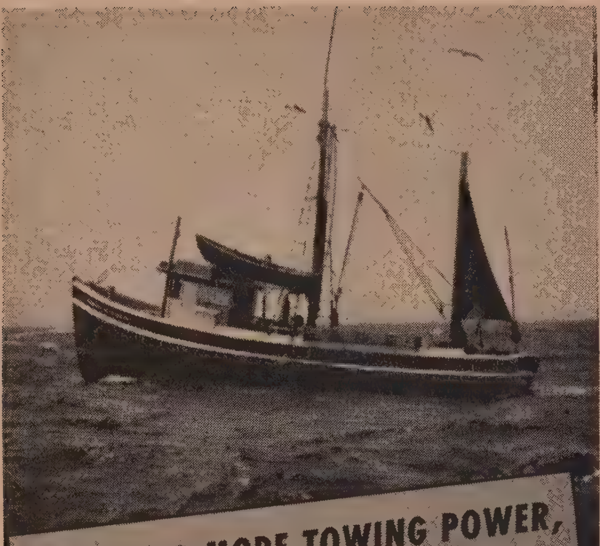
as it comes from the sea ...with western waxed wrappers

Surest way to haul in more sales: bait your product with Western Waxed Paper's alluring carton overwraps. Consumers can't resist the smart, modern designs, sparkling sheen and appetizing vignettes of colorful Western frozen seafood wrappers. Western uses satin-smooth opaque stock that *protects* as it merchandises (. . . *tough* stock, too, for efficient production-line operation.)

WESTERN WAXED PAPER

DIVISION CROWN ZELLERBACH CORPORATION

SAN LEANDRO, CALIF. • Plants and Sales Offices at Los Angeles, and Portland, Ore.

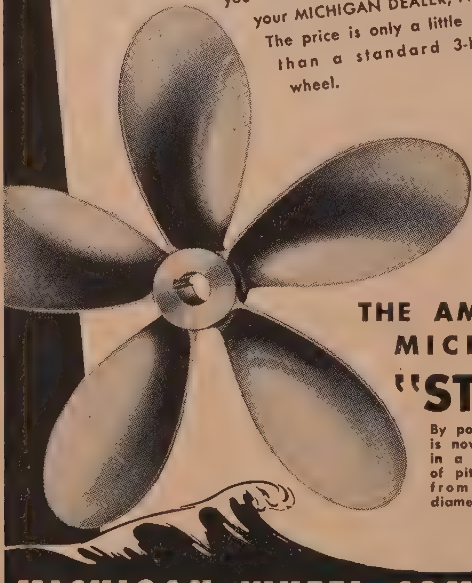


"IT GIVES MORE TOWING POWER, IS FREE OF VIBRATION, SAVES FUEL" ..*Says Owner..*

. . . Joaquin Rivers of Provincetown, Mass., concerning the 5-blade MICHIGAN STAR wheel with which the vessel bearing his name is now equipped.

In port after port there are now literally hundreds of fishermen and commercial boat operators using this marvelous wheel and we doubt you could find one of them who would take twice the price he paid for it if another was unavailable.

If you haven't as yet investigated the MICHIGAN STAR, do so at once. On your craft it will save you money, save you time and give you smoothness of operation way beyond what you ever believed possible. See your MICHIGAN DEALER, NOW. The price is only a little more than a standard 3-blade wheel.

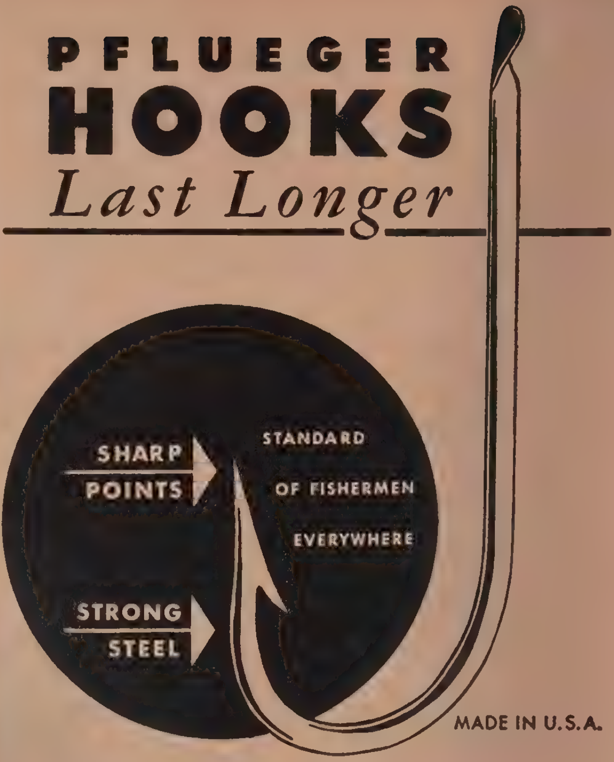


THE AMAZING MICHIGAN "STAR"

By popular demand is now being made in a complete range of pitches and sizes from 34" to 60" diameters.

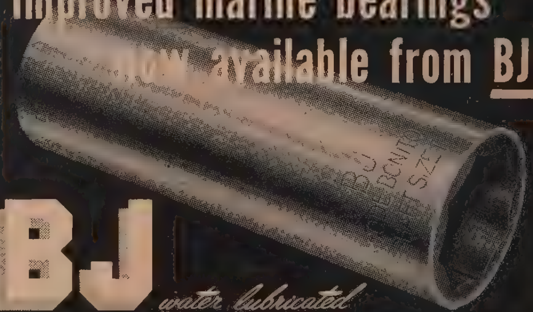
MICHIGAN WHEEL COMPANY
GRAND RAPIDS 3, MICHIGAN

PFLUEGER HOOKS *Last Longer*



THE ENTERPRISE MANUFACTURING CO., AKRON, OHIO
PFLUEGER A GREAT NAME IN TACKLE
(Pronounced "FLEW-GER")

improved marine bearings now available from BJ!



BJ *water lubricated* **MARINE BEARINGS**

- For all standard shaft sizes from 3/4" through 3"
- Molded resilient rubber—bonded to a heavy brass case

PROMPT SERVICE...QUICK DELIVERY

BJ Marine Bearings are backed by Byron Jackson's years of experience in specialized rubber applications. And BJ's 82-year-old record of customer-satisfaction assures you of uniform high quality, dependable delivery and service.

Contact your nearest marine supply dealer or write for Bulletin No. 54.

PB DIVISION
Byron Jackson Co.
P.O. Box 2493, Terminal Annex, Los Angeles 54, Calif.

Polaris Sets Amazing Record with Gargoyle Lubricants

Skipper Arne Einmo at the wheel of the Polaris.

In long fishing hauls that have taken her to such far-away points as the Aleutian Islands and the coast of Mexico, the schooner Polaris has set an amazing performance record with Gargoyle marine oils—22 years with original pistons and piston liners.

Skipper Arne Einmo of Seattle reports that although the Polaris is often at sea for more than a month at a time, its 175 HP Atlas engine has never been re-bored.

"We've had such outstanding performance with Gargoyle oils, we always make sure we have a drum aboard so we won't have to use another oil on our long tuna and halibut runs," Einmo says.

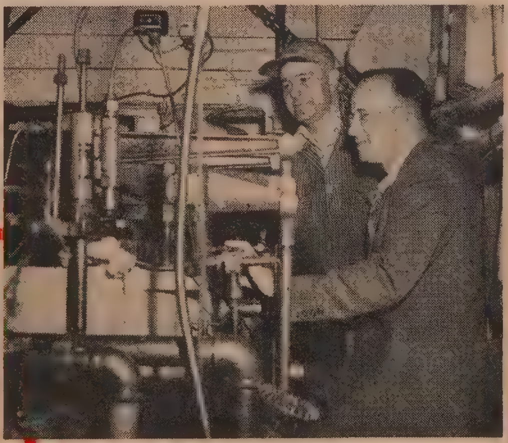
SOCONY-VACUUM

GENERAL PETROLEUM CORPORATION

Converting nature's gift for better living

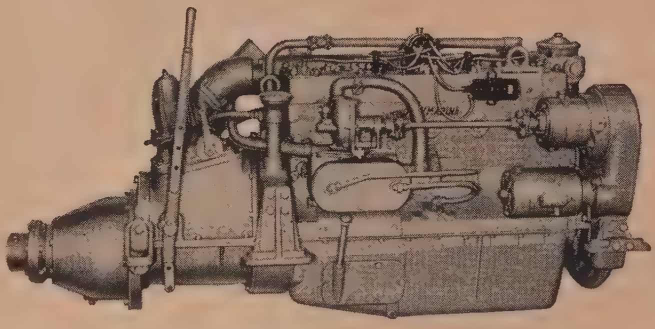
2-1012

No matter what kind of boat you operate, there's a performance proven Gargoyle marine lubricant to protect its costly engine every working mile. Visit your friendly General Petroleum marine distributor the next time you're in port for the absolute tops in service and product quality!



G.P. Marine Representative Ted Rasmussen, right, discusses cylinder lubrication with Arne Einmo in the Polaris engine room.

GRAYMARINE ENGINES FOR FISHING BOATS



Choice of 26 Models,
Gasoline and Diesel,
16 to 200 H.P.

Choice of Reverse Gear,
hydraulic or manual
type

Choice of Mounting Brackets,
to fit any engine bed

Choice of 6 or 12 volt Electrical System,
extra generator
available

Magneto Ignition
available

Automatic Temperature Control System
standard on most
models

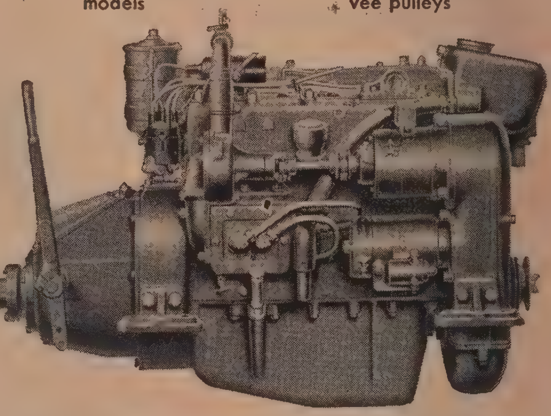
Fresh Water Cooling System
available on all
models

Ignition shielding
available for bigger
vessels with radio
telephone

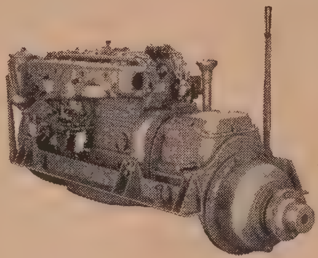
Sealed Unit Instrument Panel
weather-proof

Extra Equipment,
such as flywheel
enclosure, and useful
vee pulleys

Gray has been building marine engines for 48 years, and we know the needs of commercial fishermen. We recognize that the demands on an engine in their operations far exceed the requirements of intermittent service in a pleasure boat. Thus Gray Lugger and Express models are relatively slow speed engines, built for swinging big propellers in heavy boats.

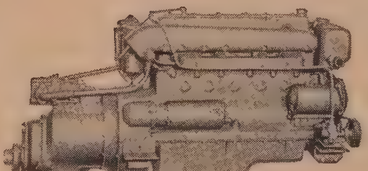


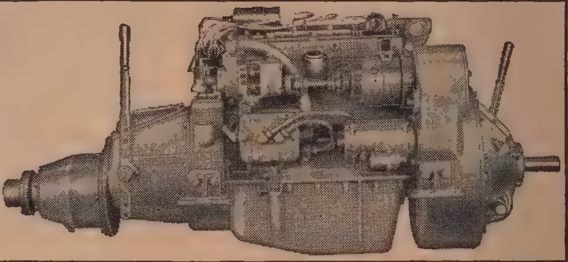
The powerful small engine shown above with built-in fresh water cooling system has a piston displacement of 162 cubic inches, develops 42 hp at 1800 rpm, and swings a 16 x 9 propeller on direct drive in heavy 30-foot fishing boats. It is also available with 2:1 or 3:1 reduction gear and power take-off.



An outstanding engine for larger boats is the Gray Six-330 (gasoline), with 4″ bore and 4⅜″ stroke, rated 96 hp at 2400 rpm, and 124 hp at 3200 rpm. It has seven main bearings, 2⅝″ crankshaft, sodium-cooled exhaust valves, and oversize reverse gear.

Gray builds Diesels in four sizes. These include two four-cylinder models rated 30 hp and 50 hp at 1800 rpm, also two six-cylinder models rated 100 hp and 135 hp at 2200 rpm. All have fresh water cooling system.





All Graymarine engines are available with reduction gear drive, and Twin-Disc Power Take-off, as illustrated in the unit above, for operating net hauling winch, etc. Extra vee pulleys are also available on front end of engine, at small extra cost.

FACTORY-APPROVED SERVICE, AND STOCKS OF GENUINE GRAYMARINE PARTS, ARE MAINTAINED THROUGHOUT THE WORLD

•

INQUIRIES ARE INVITED. WRITE FOR COMPLETE INFORMATION

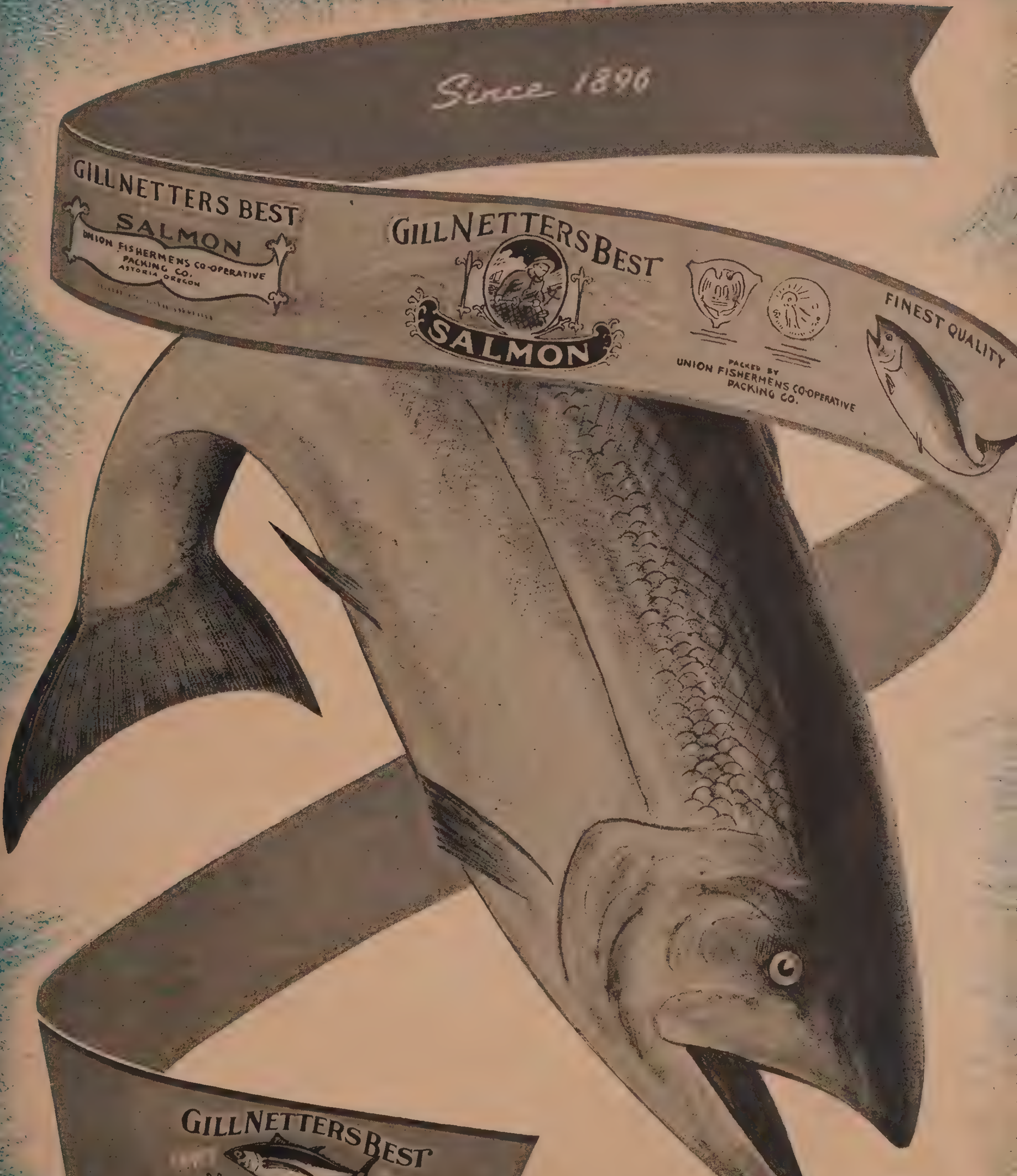
GRAYMARINE

GASOLINE AND DIESEL

MARINE ENGINES

GRAY MARINE MOTOR COMPANY • 710 CANTON AVENUE • DETROIT 7, MICHIGAN

SUBSIDIARY OF CONTINENTAL MOTORS CORPORATION


Since 1896
GILLNETTERS BEST
SALMON
UNION FISHERMENS CO-OPERATIVE PACKING CO.
ASTORIA OREGON
GILLNETTERS BEST
SALMON
PACKED BY
UNION FISHERMENS CO-OPERATIVE PACKING CO.
FINEST QUALITY
GILLNETTERS BEST
TUNA
PACKED IN SOYBEAN OIL
SALT ADDED
CONTENTS 3¼ OZ. AVOIR.

OCEANIC SALES COMPANY
3302 SMITH TOWER, SEATTLE 4, WASH.
—EXCLUSIVE SALES AGENTS—

UNION FISHERMEN'S CO-OPERATIVE
PACKING COMPANY
ASTORIA, OREGON

When you ship green water

...KEEP DRY

U. S. Rubber Raynster workmanship means built-in dryness. Rubber compounds provide greater resistance to abrasions, sun and cold.

U. S. RUFF-N-TUFF EUREKA SUIT
- inside fly front
- corduroy-tipped collar
- rust-resistant ball and socket fasteners
- underarm ventilation
- overalls: elastic suspenders
- cut-off band permits shortening, won't curl or ravel.

BLACK EUREKA BOOT
- duck-lined, shockproof, thigh-high... for maximum comfort.

U. S. PEERLESS NEOPRENE SUIT
- Neoprene outside, inside
- resists acids, oils
- corduroy-tipped collar
- rust-resistant ball and socket fasteners
- overalls: bib front, adjustable suspenders, cut-off band permits shortening without curling or raveling.

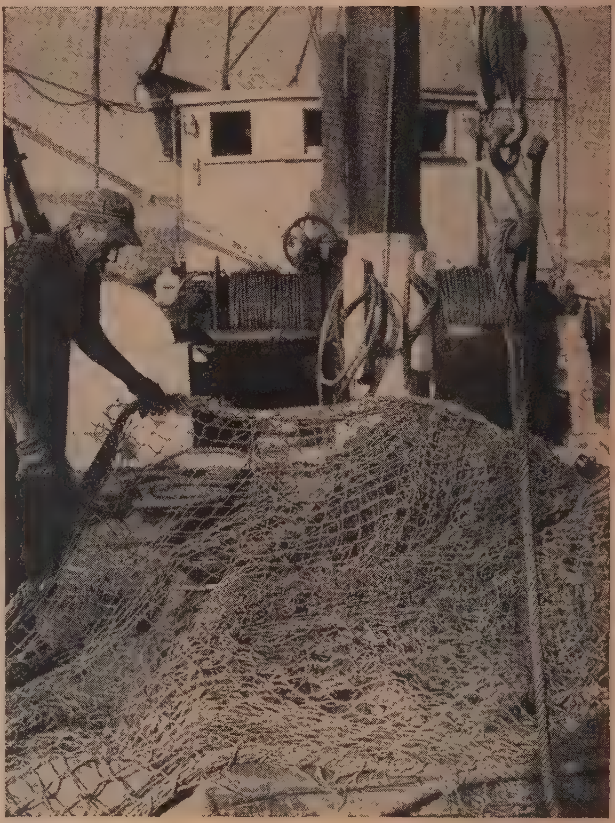
U. S. SQUAM HAT
- reinforced water-shed brim.

SOLD ONLY THROUGH INDUSTRIAL AND RETAIL STORES

U. S. INDUSTRIAL RAYNSTERS®
U. S. ROYAL RUBBER FOOTWEAR
US RUBBER
UNITED STATES RUBBER COMPANY

IT'S A WHALE OF A ROPE!

ROEBLING PREFORMED SPECIAL GALVANIZED

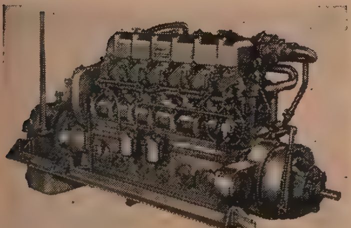


THIS NEW ROEBLING FISHING ROPE is something to brag about! Its *special galvanizing* gives every inch of every wire a lot more resistance to corrosion. Its *core protection*—the fibre core impregnated with a preservative—wards off excessive absorption; reduces destructive action of salt water, fungi, mildew and dry rot. Its *preforming* makes it easier to handle; gives you smooth drum winding; helps prevent kinking and bending.

Next time you order fishing rope, order Roebling's New Preformed Special Galvanized. And for standing rigging and every other service, there's a Roebling wire rope that will give you top dependability and long-run economy. Call your distributor or the nearest Roebling office. They're listed in the yellow pages. John A. Roebling's Sons Corporation, Trenton 2, N. J.

ROEBLING CF&I
Subsidiary of The Colorado Fuel and Iron Corporation

7 pounds, 6 oz.–rarin' to go!



Horsepower: 30 to 255. Two-cycle, 2, 3, 4, 6-cylinder models. Speeds to 1800 rpm. Stationary, mobile, marine. Diesel-generator sets.

How much weight to a horsepower? Take one of our P&H Diesels — divide its weight by its power — and that's the figure you get.

The reason we're so proud of our baby: at 7 pounds, 6 ounces this horse is full grown! No competing diesel can produce a full horsepower to that amount of weight. Pound for pound, this engine out-powers them all.

Dollar for dollar, too. A P&H will give you more horsepower per dollar than any other diesel. And just as a sort of extra, it's also the easiest to service!

Not that it will need much servicing. Actually, a P&H Diesel takes less of it than the old gasoline engine. Its fuel cost: *about one-third*.

Some baby!

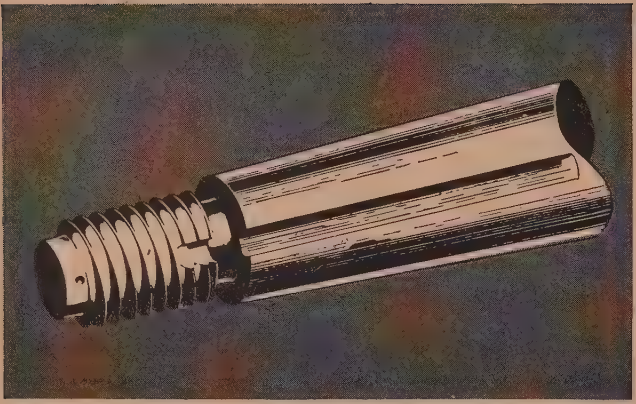
P&H Diesel Engine Division, Harnischfeger Corporation, Crystal Lake, Ill.

DUSTRIAL & MARINE ENGINES, Inc.
804 East Anaheim St.
Wilmington, Calif.

ARKER DIESEL ENGINEERING CO.
945 - 19th Ave.,
Oakland, Calif.

THE P&H DIESEL

lowest price per horsepower . . .
lowest weight per horsepower



Why A MONEL SHAFT...

Because Monel® shafts are

1. Highly resistant to salt water corrosion
2. Stronger, stiffer and harder than other corrosion-resisting shaft metals

Also, if you plan to increase engine power you can often save money by running it through a strong Monel shaft of the same diameter as your old bronze shaft. This saves you the cost of new shaft log and bearings. Check the figures on engine power and rpm with your engine builder or naval architect.

Where TO GET IT...

You can order Monel shafts through your local boat yard or from the following warehouses or their authorized stocking jobbers of Monel shafts:

Pacific Metals Company, Ltd.
1400 South Alameda Street · Los Angeles 21, California
1533 India Street · San Diego 1, California
3100 Nineteenth Street · San Francisco 10, California

Eagle Metals Company
2336 North Randolph Avenue · Portland 12, Oregon
4755 First Avenue South · Seattle 4, Washington

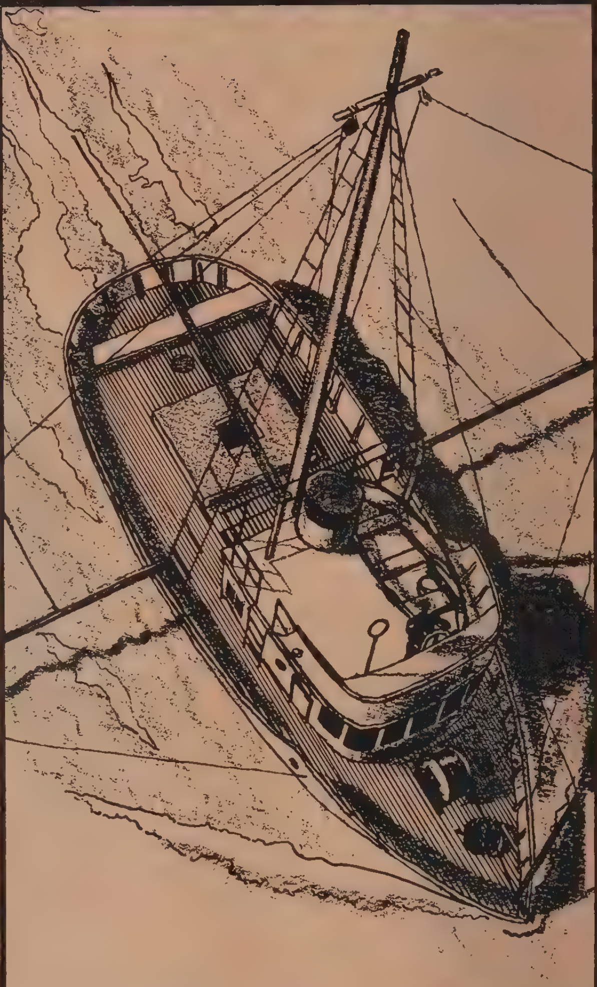
Wilkinson Company, Ltd.
190 West Second Avenue · Vancouver, British Columbia

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York 5, N. Y.

INCO TRADE MARK

Monel "...It's the Seagoin'® metal"

SUPER SEAWORTHY! TRIPLE C



TRIPLE "C"
CAPE COD COPPER COMPOUND
AMERICAN MARINE PAINT CO.
SAN FRANCISCO, CALIF. U.S.A.

Beat the high cost of haul-outs with the world's finest anti-fouling protective coating. A complete, long-lasting guard against all marine growth.

AMPCO A TRIPLE C PRODUCT

At your dealer or boatyard.

AMERICAN MARINE PAINT CO.

H&R INC 1890

DEPENDABILITY...

. . . OUR SPECIALTY FOR OVER 60 YEARS

The Fisheries Trade turns to HANSEN & ROWLAND, INC., representing leading insurance companies and direct LLOYD'S connections. All forms of insurance written, including . . . CARGO . . HULL & MACHINERY . . PROTECTION & INDEMNITY . . PROFITS . . EMPLOYER'S LIABILITY . . WORKMEN'S COMPENSATION. World-Wide Service.

GENERAL AVERAGE ADJUSTERS

HANSEN & ROWLAND

INC.

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FISHERIES COMPANY

1826 EXCHANGE BLDG.
SEATTLE 4, WASHINGTON

ALASKA
CANNED SALMON

ALASKA CANNERIES

SHEARWATER and PORT BAILEY

PETTER DIESEL ENGINES

3-40 h.p.

WATER & AIR COOLED

Marine Auxiliary Power for:-

- GENERATORS
- BILGE PUMPS
- AIR COMPRESSORS
- REFRIGERATION
- WINCHES etc.

◀ another Petter installation

Petter AV2 driving 2 stage 30 cub. foot Air Compressor aboard Harbour Tug & Barge Co's. tow boat "SACRAMENTO" operating in the San Francisco Bay.

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WEST COAST MAIN FACTORY DISTRIBUTORS

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Shepherd Marine
Atlantic & Bandini Blvds.,
Los Angeles, California.

West Coast Engine & Equipt Co.
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"A MEMBER OF THE BRUSH GROUP OF COMPANIES"

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A PROVED PRODUCT FOR EVERY FISHERY USE

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KILN DRIED MEDIUM
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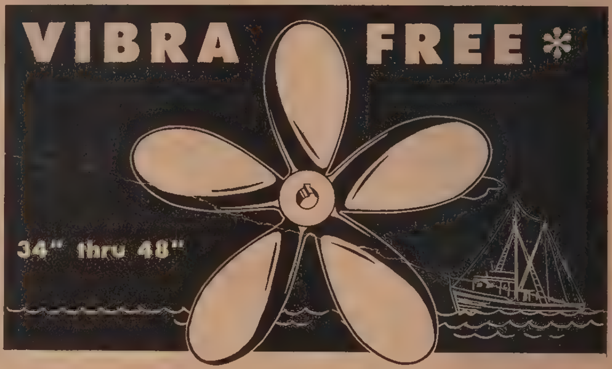


*** A POSITIVE CORRECTIVE FOR VESSELS WITH ABNORMAL VIBRATION!**

If you want to get rid of the excessive vibration that ruins nerves as well as hull and fittings, here's the way to do so completely . . . change to the new, thoroughly proven FEDERAL "VIBRA-FREE" 5-blade wheel. And, as a bonus, you will get considerably more speed and greater fuel economy. Requires no change in R.P.M., diameter or pitch, and the cost is little more than a 3-blade standard wheel. See your FEDERAL dealer, NOW! It will pay you.

FEDERAL PROPELLERS GRAND RAPIDS 3, MICHIGAN

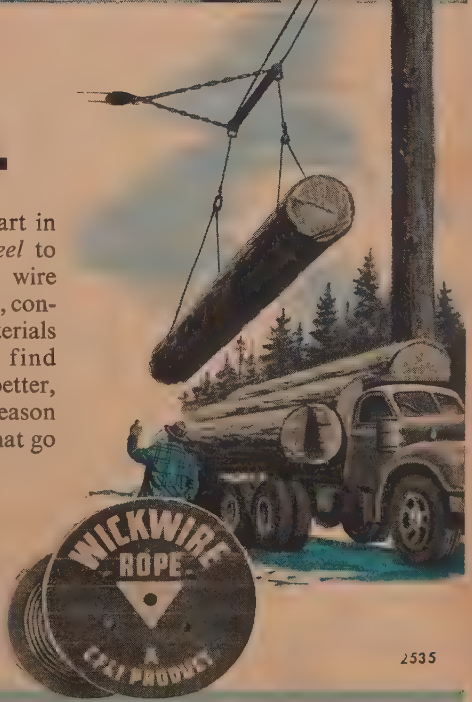
now—the logs are lighter with MUSCLES OF STEEL

Gone are the days when muscles of man and beast were the only means of loading and hauling big timber out of the woods. Supplying present-day lumber needs is a job that would lick ten thousand Samsons.

It's a job that demands *muscles of steel*—rugged wire rope that lifts and pulls the heaviest logs with strength to spare.

We of Wickwire play a big part in furnishing these *muscles of steel* to American industry. Wherever wire rope is used—timbering, drilling, construction, mining, fishing, materials handling—there also you'll find Wickwire Rope helping to do a better, more efficient job. That's the reason for the quality and extra care that go into its making.

***every** industry benefits from wire rope*



WICKWIRE ROPE

CF&I PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

2535

THE COLORADO FUEL AND IRON CORPORATION—Abilene (Tex.) • Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
PACIFIC COAST DIVISION—Los Angeles • Oakland • Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga • Chicago • Detroit • Emlenton (Pa.) • New Orleans • New York • Philadelphia

Standard Engineer's Report

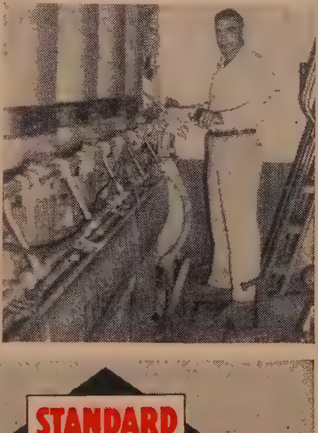
CASE HISTORY

PRODUCT RPM Delo Oil and Standard Diesel Fuel

FIRM M.V. West Coast, San Diego, Calif.

Liner wear only 0.0025" after 18,200 hours' work!

OUT AFTER TUNA THE YEAR AROUND, the M.V. West Coast goes as far south as Peru. This clipper's 400 h.p. diesel works under constant load as long as 90 days at a time, but RPM DELO Heavy Duty Lubricating Oil keeps all engine parts clean and in good condition. Liner wear was only 0.0025" at time of last inspection—after 18,200 hours of tough work since overhaul. All piston rings were clean and free, pistons and cylinders had no deposits, and bearings were in perfect working condition.



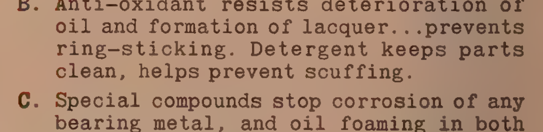
CHIEF ENGINEER MANUEL VIERRA uses Standard Diesel Fuel exclusively. Its controlled distillation range and high ignition qualities provide full, uniform power. Because it is delivered clean, injector nozzles in the West Coast's engine are cleaned only once a year. Not one has been replaced since the last overhaul.

FOR EXPERT HELP on lubrication or fuel problems, call your Standard Fuel and Lubricant Engineer or Representative; or write to 225 Bush St., San Francisco.

STANDARD DIESEL FUELS

RPM DELO LUBRICATING OILS

How RPM DELO Oils keep engines clean and prevent wear



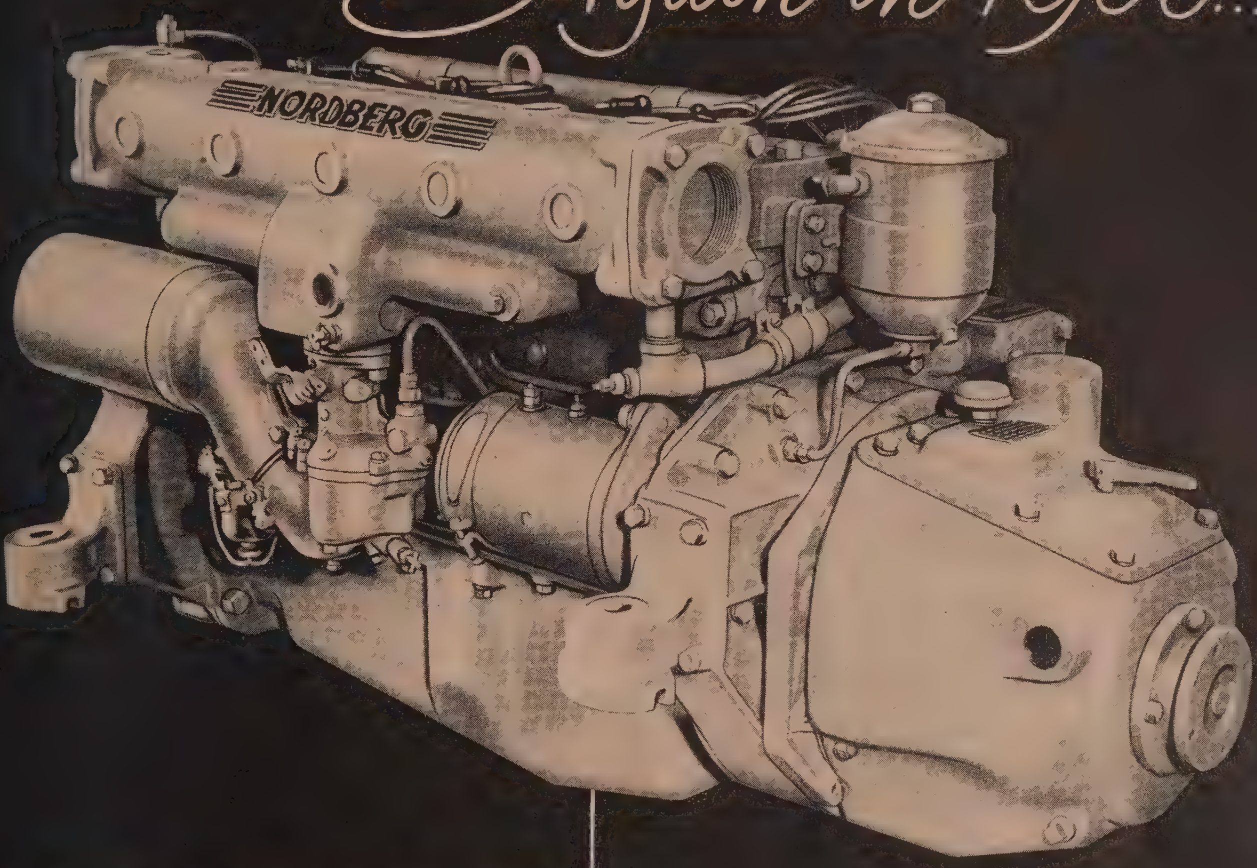
A. Contain special additives that provide metal-adhesion qualities...keep oil on parts whether they are hot or cold, running or idle.

B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean, helps prevent scuffing.

C. Special compounds stop corrosion of any bearing metal, and oil foaming in both wet and dry sump engines.

TRADEMARK REG. U. S. PAT. OFF

STANDARD OIL COMPANY OF CALIFORNIA



Again in 1955...

NORDBERG

. . . still the Quality Name in the Marine Engine Field

In every one of the six rugged, dependable Nordberg Gasoline Marine Engine Models for 1955 you will find a long list of exclusive engineering and construction features that mean maximum fuel economy, minimum maintenance, and years of trouble-free service in the toughest kind of fishing operations.

Join the ranks of fishermen from coast to coast who have found Nordberg the *best* in Gasoline Marine Engine power . . . install a Nordberg in *your* boat.

NORDBERG MFG. CO., Milwaukee 1, Wisconsin

NORDBERG

NORDBERG MACHINERY

GASOLINE MARINE ENGINES

© 1955, Nordberg Mfg. Co. G155F

155 hp Knight • 130 hp Tarpon • 110 hp Marlin • 110 hp Bullet • 95 hp Arrow • 95 hp Bluefi

ALASKA

CANNED *Salmon*

There's good reason for the popularity of Alaska Gem and other salmon canned by Annette. Our cannery, ideally located adjacent to fishing grounds, is always assured a supply of fine, prime ocean-caught fish . . . salmon that are naturally best . . . fresh-caught and canned while at their best. Particular pride is taken, too, in handling and processing, in the cleanliness and sanitation of our modern cannery. All to safeguard the quality that is our reputation.

This same fine quality product is also available to the trade unlabeled, for private brand labeling.

ANNETTE ISLANDS

CANNING CO.

Cannery:
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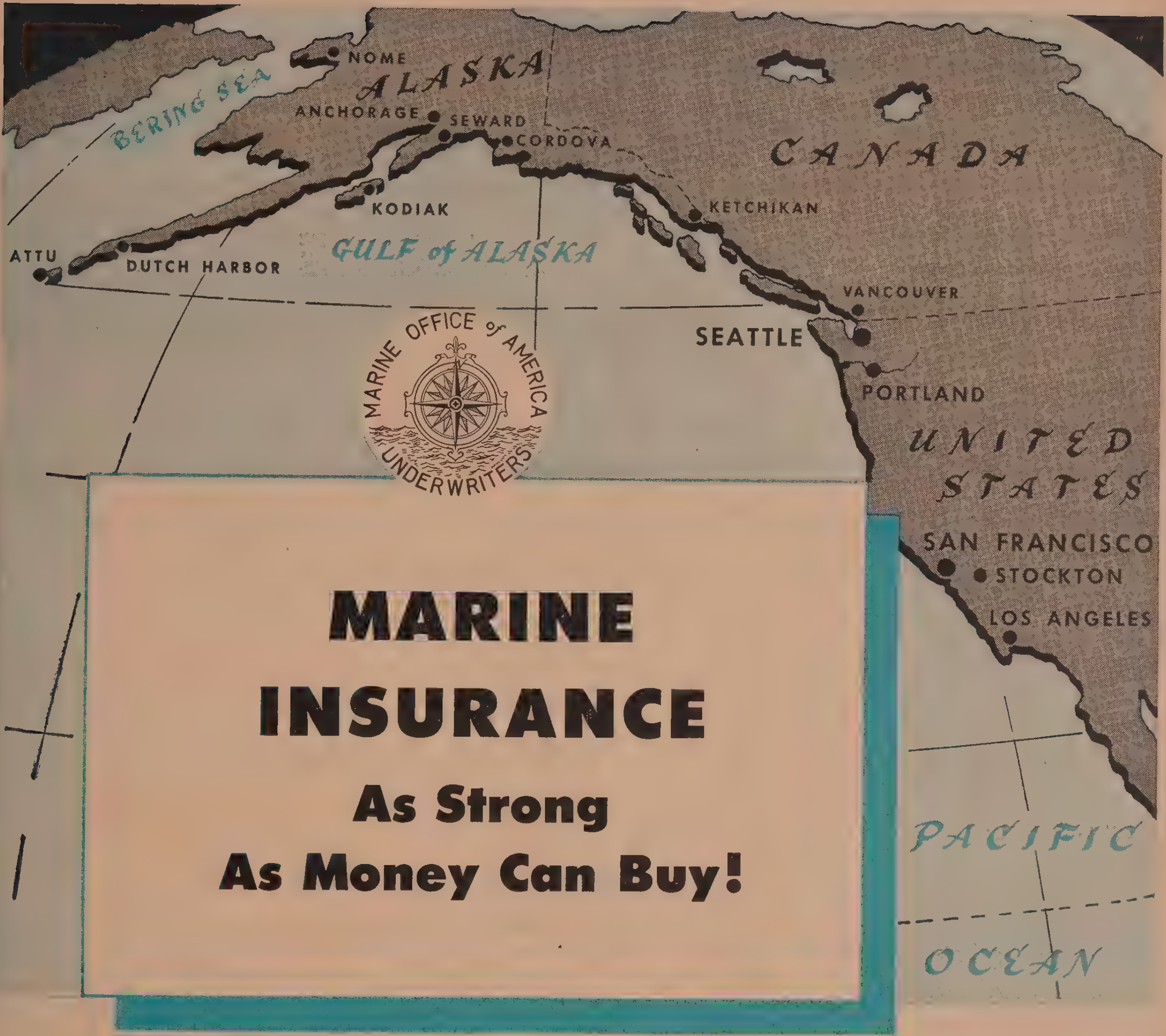
and Chum Salmon

Office:
Colman Building
Seattle 4, Washington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GULF of ALASKA
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SOUND—because every Marine Office policy is backed by the security and strength of the seven outstanding companies listed below.

UNQUESTIONED—because of its long and distinguished record of prompt settlement of all just claims in all parts of the world.

DEPENDABLE—because of its know-how gained through decades of specialized experience in handling all classes of Marine Insurance.

This is your guarantee of sound protection—*as strong as money can buy.*

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411 Yeon Building—Portland 4, Oregon
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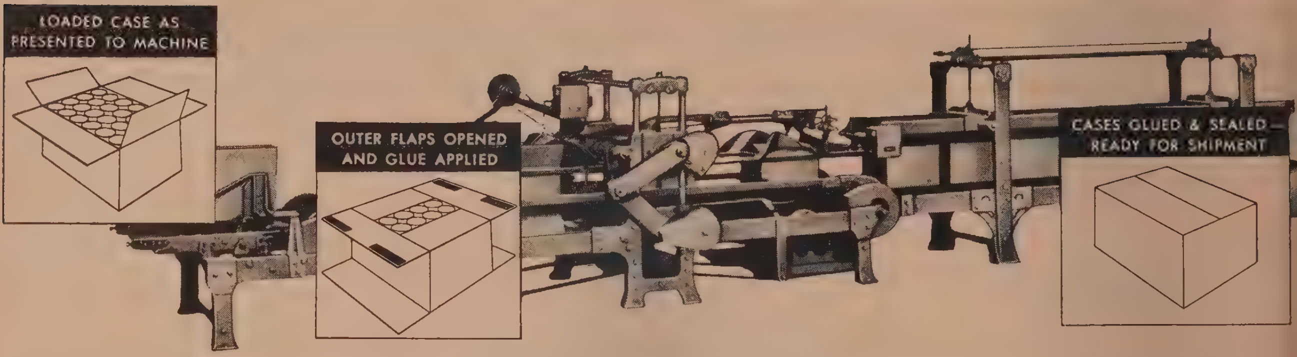
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Pauls Netting

gives you absolute uniformity of length and strength

With Pauls Netting your unusually heavy loads are handled equally well by each fibre in each mesh. There are no weak strands to rip and fray. With Pauls Netting every strand in every mesh has strength.

Pauls Netting comes in any size mesh, any weight or any type twine you want. Delivery is prompt.

So for your finest netting buy, ask for Pauls. For gill netting on the Pacific Coast be sure to say "Pauls Locknot"!

PAULS
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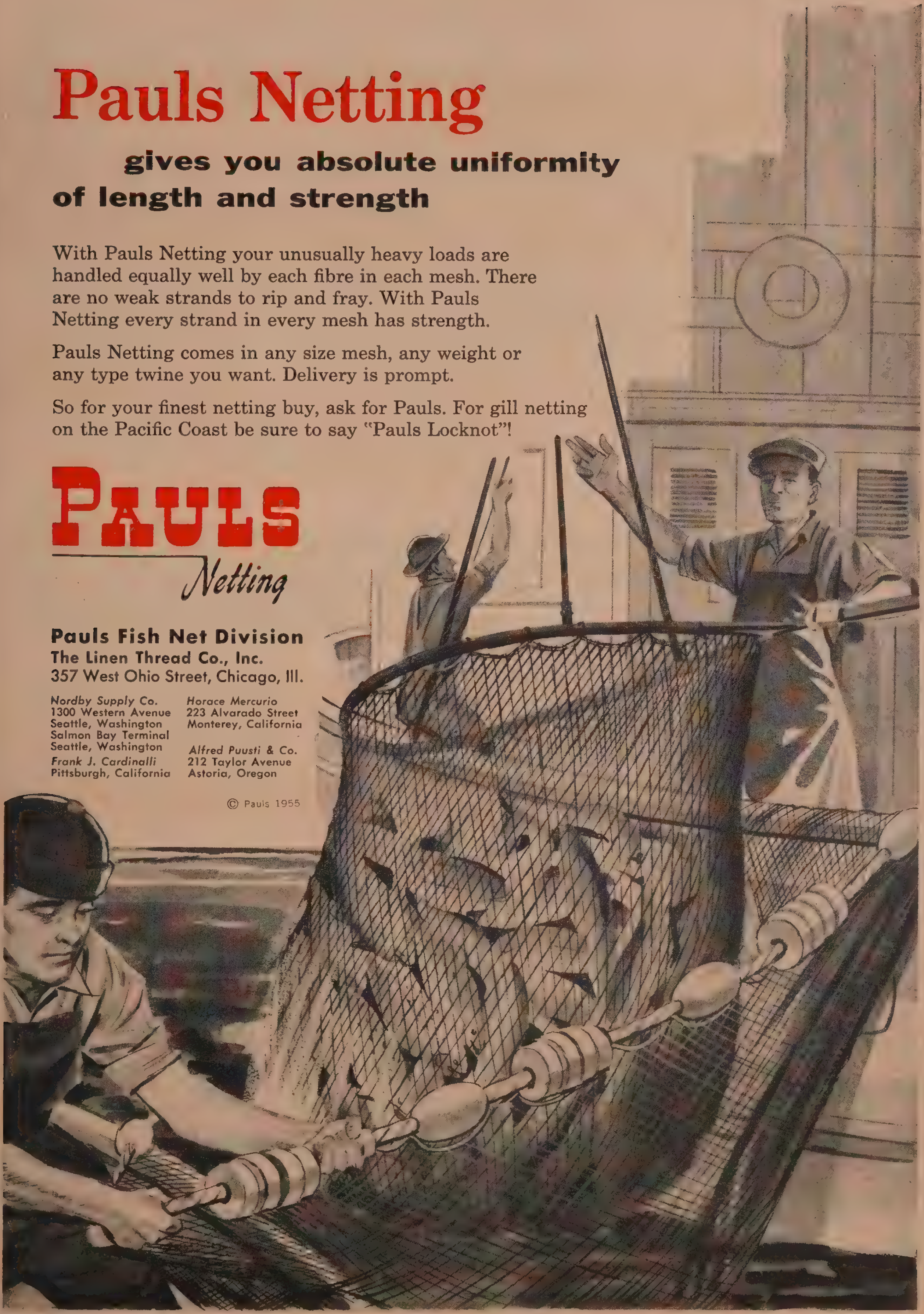

Pauls Fish Net Division
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Seattle, Washington

Frank J. Cardinalli
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Horace Mercurio
223 Alvarado Street
Monterey, California

Alfred Puusti & Co.
212 Taylor Avenue
Astoria, Oregon

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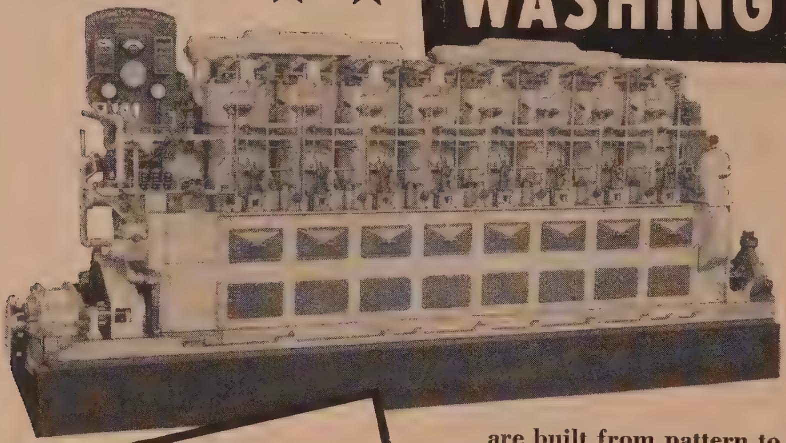
★ ★ ★ ★ ★ **WASHINGTON DIESEL**



PROVEN DEPENDABILITY plus the assurance of responsibility on the part of the manufacturer have led fishing vessel owners to choose Washington diesels again and again for over 33 years.

Washington diesel engines are built from pattern to final inspection in one big eight acre plant, with completely integrated facilities. Each installation is further safeguarded by expert engineering counsel, efficient service and parts availability for years to come.

Range of models from three to eight cylinders, 90 to 1000 horsepower, 277 to 450 rpm.

WASHINGTON IRON WORKS

THE FIRST WASHINGTON DIESEL EVER BUILT IS STILL IN COMMERCIAL OPERATION

WASHINGTON IRON WORKS

1500 6TH AVENUE SOUTH *Since - 1882* SEATTLE 4, WASHINGTON

Building and Growing with the people we serve

Since 1870, Seattle-First National Bank has been building and growing with the people of Washington. Among our Statewide acquaintances, we are proud of our many friends in the fishing industry—and the confidence they place in us.

Whenever you have a banking problem—whether it's establishing a new account, financing new equipment, opening a safety deposit box, or in need of sound business advice—our friendly, experienced people stand ready to serve you!

SEATTLE 1ST NATIONAL BANK

SEATTLE - FIRST NATIONAL BANK

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57 OFFICES TO SERVE YOUR EVERY BANKING NEED

TOWER'S "FISH BRAND" NEOPRENE

Never before have waterproofs afforded the protection given fishermen by

TOWER'S NEOPRENE HOODED SHIRTS and PANTS

In addition to providing solid comfort, roominess, and durability, **TOWER'S NEOPRENE** waterproofs give special protection against oils, greases and ordinary acids. Hoods attachable to regular jackets may be purchased separately if desired.

For those not requiring the extra protection given by Neoprene treatment we suggest **TOWER'S "FISH BRAND"** oiled or **"ARROW BRAND"** rubber garments. Styles available include jackets, pants, hooded shirts, coats, aprons, sleeves and hats. All good dealers carry these items or can get them for you.

For folder of styles and detailed information write Department ***PF.***

NEOPRENE — TOWER'S FISH BRAND

RUBBER — TOWER'S ARROW BRAND

A. J. TOWER CO.

24 SIMMONS ST. BOSTON, MASS.

NEARLY NINETY YEARS AGO

we issued our first marine cargo policy to Bernard and Anson Goldsmith, assayers and importers of assayers' materials.

The shipment was from San Francisco to Portland, Oregon, by steamer ACTIVE, with coverage to the extent of $1,000. This modest transaction started Fireman's Fund on its way to becoming one of the world's leading marine underwriters, with hull, cargo and P. & I. underwriting and claims services unexcelled. Since our origin, we have always been a home company to the Pacific Coast. Whether they sail purse seiners, tuna clippers, cargo carriers, or passenger ships, men of the sea like to do business with men who know and understand the perils of the sea—they like to do business with Fireman's Fund.

There is an independent agent or broker in your community representing Fireman's Fund.

MARINE DEPARTMENT

Fireman's Fund

INSURANCE GROUP

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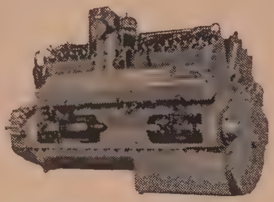
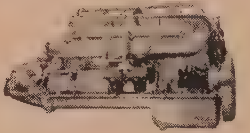
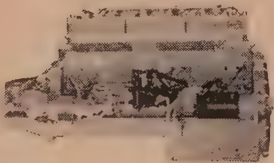


Series V-12-300: 350 H.P.
894 cu. in. Displ.



Series 160-170-200:
175 to 225 H.P.
548 to 678 cu. in. Displ.

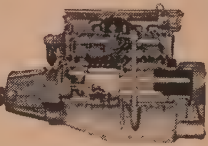


Series 150: 185 H.P.
447 cu. in. Displ.

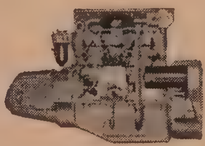
Series 100: 110 H.P.
320 cu. in. Displ.

Series 90: 95 H.P.
230 cu. in. Displ.

Series 30: 50 H.P.
134 cu. in. Displ.



Diesel 8500: 84 H.P.
298 cu. in. Displ.



Diesel 7000: 79 H.P.
225 cu. in. Displ.

SCRIPPS POWER

FOR EXCEPTIONAL PERFORMANCE

Another Scripps Installation

BOAT: Stonington 40-Foot Auxiliary
DESIGNER: Henry A. Scheel, N.A.
BUILDER: Stonington Boat Works, Inc., Stonington, Conn.
DIMENSIONS: 40′0″ x 12′4″ x 4′3″
CRUISING RADIUS: 50 Hours at 8 Knots. Fuel Capacity, 160 Gallons.
POWER: Scripps Super Diesel Marine Engine Model 8500, 6 Cylinder, 298 C.I.D. delivering 84 Actual Horsepower at 2600 R.P.M. 2-1 Hyd. Reduction Gear

Scripps Marine Diesels provide all of the features that experienced boatmen know to be important.

Their four-cycle design is outstandingly the best for this type of engine. They are mechanically simple, trouble-free, easy to service. They are smooth-running and marvelously flexible—loaf along steadily at 400 RPM, lug a heavy wheel at 800, yet are always ready with a giant's power to take you up to full throttle, fast. They are *very* thrifty because they run well on a wide range of low-cost fuels. Above all, they are dependable.

If you are powering or re-powering a fine boat of 30 to 90 feet, give special thought to the engine, the most vital item of your boat's equipment. Your peace-of-mind may depend upon your decision.

Scripps Marine Power is available for every boat and every budget—gasoline and diesel engines, fifty to seven hundred horsepower, Fours, Sixes, V-Twelves, true right and left V-12 models with symmetrically opposed and synchronized rotation for finest twin installation.

For information on Scripps Power for your boat, see your boat builder or write direct. SCRIPPS MOTOR COMPANY, 255 Vinewood Avenue, Detroit 16, Michigan.

SCRIPPS MARINE POWER

Famous Around The World For 50 Years

Quality FIBERS
Superior CONSTRUCTION
Manufacturing EXPERIENCE

It all adds up to these famous names in netting

BARBOUR'S®

LINEN

"Barbour's Best" salmon netting, a long time favorite with fishermen, is still one of your best buys for efficient, dependable netting.

NYLON

Here's nylon . . . strong and long-lasting. Introduced just three years ago, it has gained high acceptance by fleets and independent salmon fishermen.

NYLON (braided)

Newest member of Barbour's family, braided nylon is coming into its own. Production has been increased to meet the enthusiastic demand. You owe it to yourself to try this new advanced design netting.

AND

Gold Medal® Netting

Everybody knows this famous name. It's the prize netting for prize catches.

®Registered Trade Mark

MAKERS OF FINE NETTING FOR OVER A CENTURY

BARBOUR'S®

THE LINEN THREAD CO., INC.

DOUBLE-KNOT SALMON GILL NETTING

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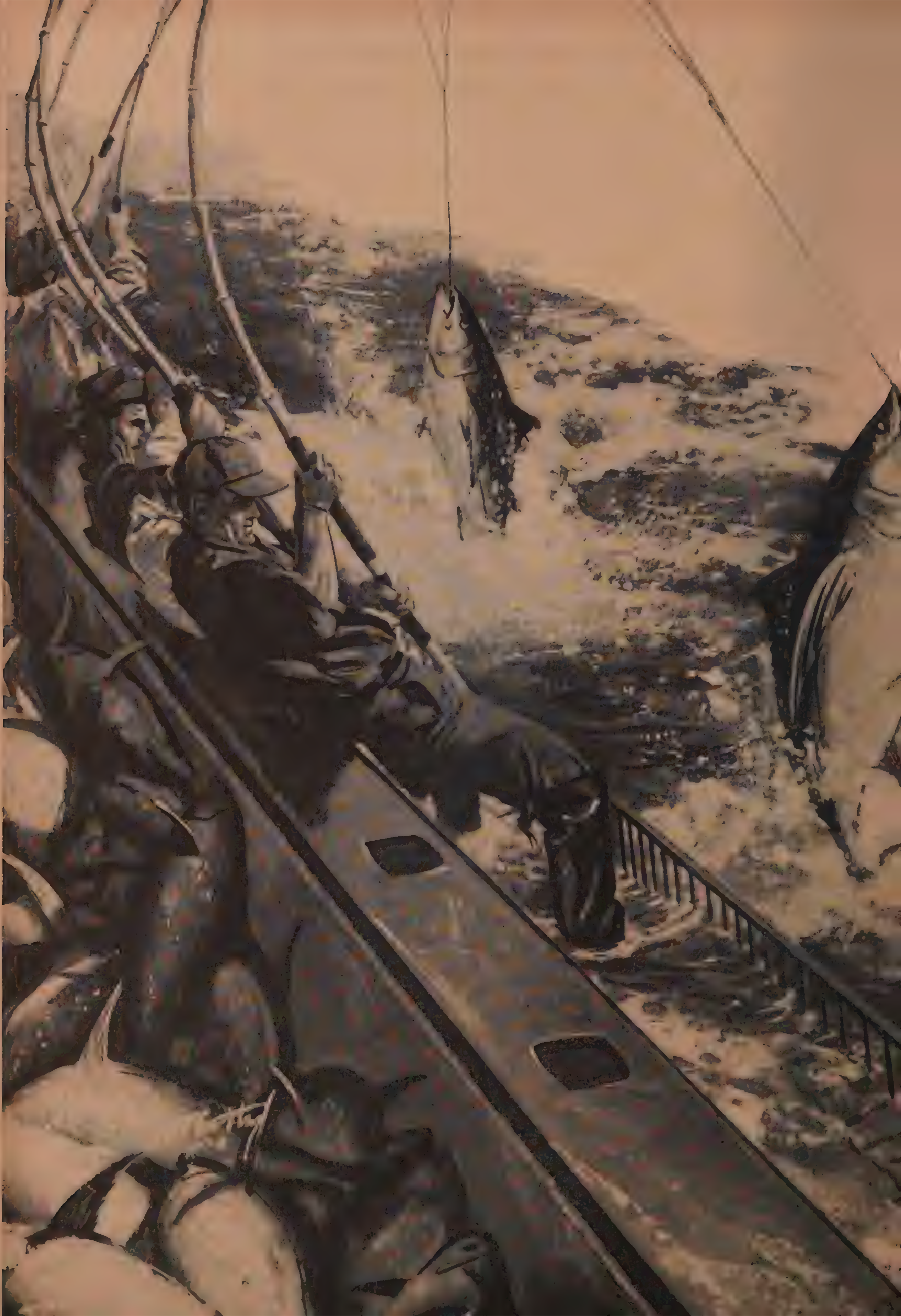
Oregon Marine Supply Co., Portland and Astoria
Pacific Fishing & Trading, Seattle

California Distributors: Cincotta Bros., San Francisco and Monterey. Marine Hardware Co., Inc., San Pedro and Terminal Island. Nuttall-Styris Co., San Diego. San Diego Marine Hardware Inc., San Diego.



CONTINENTAL CANS...
TAILOR-MADE FOR THE CATCH

Fish packers have learned to depend upon Continental not only for their supply of cans but also for the customer service and research facilities so important to putting out a fine product for the home and institutions.

That's because Continental has packaging experts stationed all up and down the Pacific Coast. Four of our nine western can plants now devote all or most of their production to cans for fish packers. In addition we have three western research laboratories and two machinery service centers.

You'll find our packaging service is tailor-made to fit your needs. Why not give it a try?

CONTINENTAL CAN COMPANY

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10200 No. Burgard St., Portland

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Plants: **New York, Brooklyn, Philadelphia, Chicago, Chestertown, Md., Alaska, Seattle**

GM DIESEL
CASE HISTORY NO. 9907-32

BOAT AND OWNER: 38-foot seiner "FISHERMAN" owned by Captain Michele Trama, San Pedro, California.

INSTALLATION: 87 horsepower GM "4-51" Marine Diesel replaced 115-horsepower gasoline engine—swings 32" x 24" screw through 3:1 reduction.

PERFORMANCE: Fuel bills dropped from $140 to $60 per month and speed increased after Captain Trama switched from gasoline to GM Diesel power. He also reports easier starting and better maneuverability.

It Pays to STANDARDIZE on

GM
GENERAL MOTORS
DIESEL
POWER

Saves $80 a month in fuel

Since he switched from Gasoline to GM DIESEL POWER

Fuel bills dropped 57% when Captain Trama switched from gasoline to General Motors Diesel power but fuel savings are only part of the story. He also comes in faster under load and cuts 30 minutes off his regular 24-mile run to Catalina Island.

With his General Motors Diesel, Captain Trama has no spark ignition problems—gets push-button starts—travels faster since his GM Diesel *delivers more propulsion power for cruising*. Maintenance costs less, too, because the GM "4-51" has no valves, no rotating parts in the governor, no gear or chain drives for the oil pump. And 2-cycle operation with power on every piston downstroke gives better maneuverability, quicker response to controls, smoother cruising.

If your present boat is gasoline powered, it will pay you to investigate this new General Motors "4-51" Diesel. It will quickly pay for itself in fuel savings alone. It's about the same size and weight as gasoline engines of comparable power and speed—brings the safety, dependability and economy of Diesel power to a whole new group of fishermen for the first time. For more details call your GM Marine Diesel distributor or write:

DETROIT DIESEL ENGINE DIVISION
GENERAL MOTORS • DETROIT 28, MICHIGAN
Single Engines . . . 30 to 300 h.p. Multiple Units . . . Up to 893 hp.

Sales, Factory-Engineered Parts and Authorized Service through distributors and dealers in all important marine locations. SEE your local Telephone Classified Directory or write, wire or phone for name of nearest Distributor.

Adams—

gives you more profit per pound of netting

- Cotton, Linen or Nylon. Gill, Purse or Trawl. No matter what kind of netting you want, Adams gives you more profit per pound. Adams netting is made of the finest twine, tested for full fibre strength and balance. And all knots are machine tied and drawn tight.

Adams Netting is thoroughly inspected too . . . giving you long durable service over many busy seasons. Your Netting order is always promptly filled at Adams. Safe arrival is assured.

Call on your Adams Representative the very next time you need netting.

ADAMS
Nets · Twine
ADAMS' BEST

Adams Net and Twine Division
THE LINEN THREAD CO., INC.
701 North 2nd Street, St. Louis, Missouri

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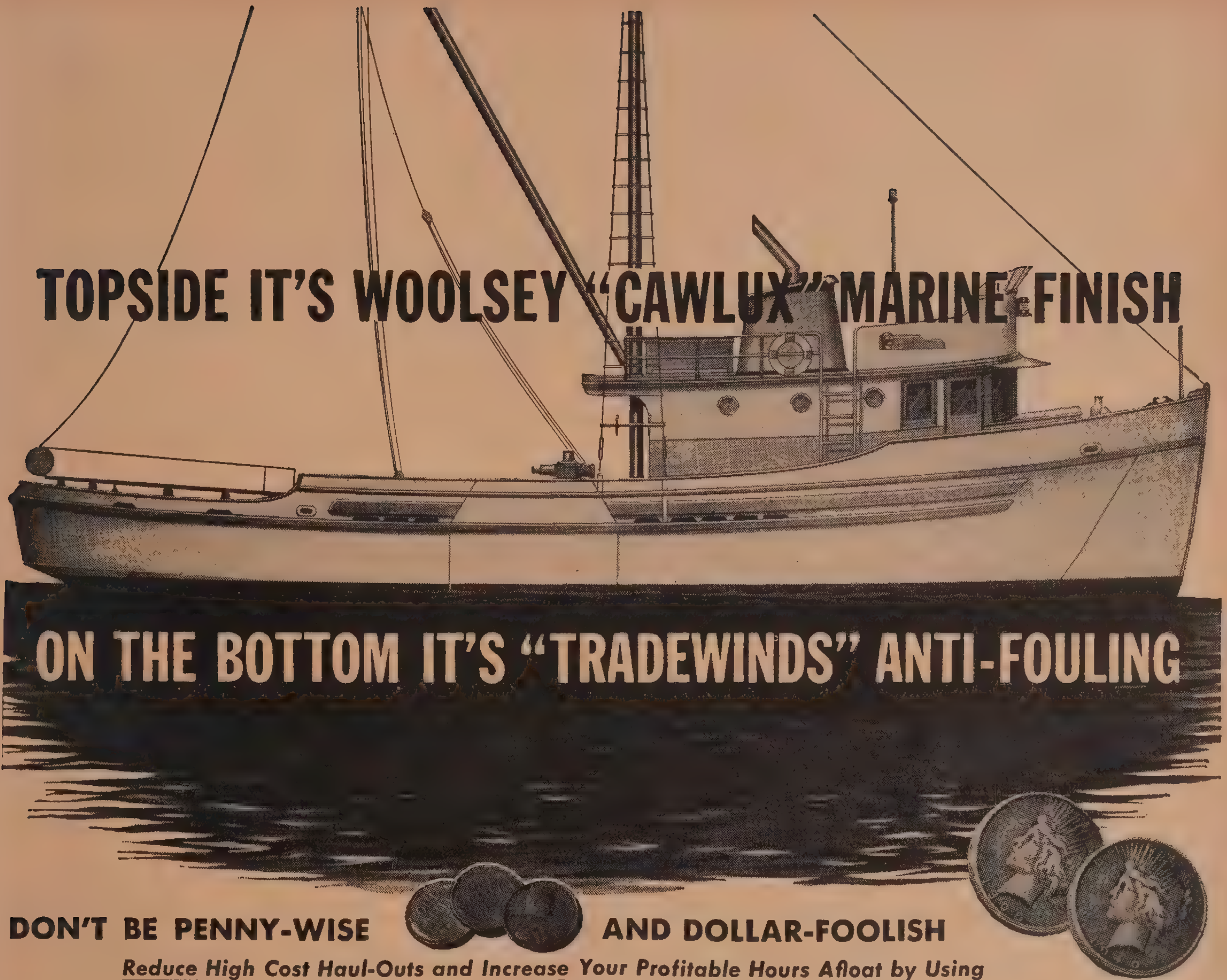
Englund Marine Supply Co.
Astoria, Oregon also located at Newport, Oregon



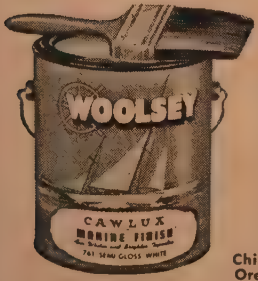
TOPSIDE IT'S WOOLSEY "CAWLUX" MARINE FINISH

ON THE BOTTOM IT'S "TRADEWINDS" ANTI-FOULING

DON'T BE PENNY-WISE AND DOLLAR-FOOLISH

***Reduce** High Cost Haul-Outs and **Increase** Your Profitable Hours Afloat by Using Higher Quality, Longer Lasting Woolsey Marine Paints on Your Boat*

"CAWLUX" FACTS—"Cawlux" Marine Finish withstands continued exposure to salt, hot sun, scrubbing, hard wear...every punishment a fishing boat must undergo...far better than ordinary paints. This is because "Cawlux" is made with a special alkyd binder that "imprisons" and protects the world's finest pigments in a tough, impermeable, flexible film. Yet "Cawlux" costs but slightly more per gallon! On the hull, trim, decks, cabin, spars, and other topside surfaces, "Cawlux" looks far better far longer than the average marine paint. "Cawlux" Whites come in Gloss, Semi-Gloss and Semi-Flat. Also available in a wide range of sea-tested colors. *It's false economy to use anything less than the best.* Try Woolsey "Cawlux" this season...and you'll agree!



"TRADEWINDS" FACTS—This highly toxic anti-fouling paint provides *season-long* freedom from barnacles, borers, grass and other attachments! For wood or steel bottoms, "Tradewinds" gives a smooth, tough finish in either Rich Red or Brilliant Green. May be applied over new wood or old paint in good condition, recoated in 3 hours, launched after 4 hours.

WOOLSEY
Tradewinds
ANTI-FOULING
BRILLIANT GREEN

Serving at Sea Since 1853

WOOLSEY®
MARINE PAINTS

C. A. WOOLSEY PAINT & COLOR CO. INC. • 229 E. 42nd St., New York 17

Chiles Boat Co., 11333 Atlantic Blvd., Lynwood, California. Oregon Marine Supply Company, 235 S.W. First Avenue, Portland 4, Oregon. Pacific Marine Supply Company, 1217-1223 Western Ave., Seattle, Washington. San Diego Marine Hardware, 1520 India Street, San Diego, California. Weeks-Howe-Emerson Company, 645 Howard St., San Francisco 5, California.

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1826 Exchange Building
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Packers of

ALASKA CANNED SALMON

CANNERY: Chignik, Alaska

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Presents:
An Unbeatable Combination!

STEEL HULLS
by GUNDERSON
Powered by
G M. DIESEL
ENGINES

Pictured at left are steel hulls in final stages of completion on the ways at Gunderson Bros. Of course the power will be GM Diesel. Gunderson builds stout hulls for any marine use, and supplies GM DIESEL POWER TO FIT!

GM
GENERAL MOTORS
DIESEL
POWER

Outstanding for Marine Use

NEW
GM DIESEL
110 Tandem
Twin

THE RIGHT DIESEL POWER FOR YOUR JOB

Rugged . . . Dependable . . . Compact

Single GM Units 16 to 275 hp.
Multiple Units up to 840 h.p.

- Gunderson Bros. will Engineer Your Complete Installation to Fit any Application.

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GUNDERSON BROS.
ENGINEERING GB CORPORATION

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Portland 9, Ore.

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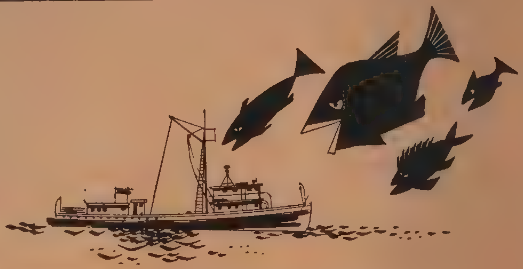

2 ways to bigger hauls

1. **Sperry Magnetic Compass Pilot**—cuts time and fuel costs by steering straight courses automatically to and from fishing grounds. And its remote controller releases more men for fishing . . . lets the skipper direct fishing operation more closely.
2. **Sperry Direct-reading Loran**—pinpoints position on most profitable fishing waters even when celestial fix is impossible . . . enables you to hold exact position and return to same precise fertile fishing spot on future trips.

SPERRY GYROSCOPE COMPANY
DIVISION OF THE SPERRY CORPORATION

GREAT NECK NEW YORK—CLEVELAND • NEW ORLEANS • BROOKLYN • LOS ANGELES
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IN CANADA—SPERRY GYROSCOPE COMPANY OF CANADA, LIMITED, MONTREAL, QUEBEC

Choice Centre Cut COHOE SALMON
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Cod
RUPERT BRAND

Rupert Brand Fresh Frozen Seafoods

IN GREATER DEMAND THAN EVER BEFORE!

Each succeeding year sees growing consumer and trade acceptance of top-quality Rupert Brand products. Today, choice, fresh-caught fish from Canada's Atlantic and Pacific coasts and from the inland fresh water fisheries—frozen and packed under the famous Rupert Brand label—are the favorites of millions across North America. The continuance of this demand is assured by constant modernization and expansion of production . . . in the introduction of the most-advanced equipment . . . and in the development of an even greater variety of fish delicacies for the frozen food market.

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Packed in Canada by

BRITISH COLUMBIA PACKERS LTD.

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RAYTHEON

THE WORLD'S MOST COMPLETE LINE OF MARINE ELECTRONIC EQUIPMENT

Spend fewer days at sea, catch more fish, make more profit with Raytheon navigational aids showing the way. These dependable, easy-to-use everyday working tools have been developed especially for the fishing industry through Raytheon's pioneering leadership in marine electronics.

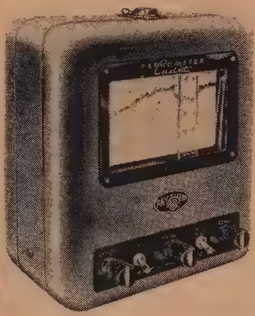
See your Authorized Raytheon Marine Dealer or write for complete information. Address Dept. 6130 PN

RAYTHEON
MANUFACTURING COMPANY
Equipment Sales Division, **WALTHAM 54, MASS.**

District Offices: BOSTON · NEW YORK · CLEVELAND CHICAGO · NEW ORLEANS · LOS ANGELES (WILMINGTON) · SAN FRANCISCO · SEATTLE
INTERNATIONAL DIVISION: 589 Fifth Ave., N. Y. C.

Rugged, compact, low in cost. Range: 0-60 or 0-120 fathoms (optional) calibrated in feet and fathoms. Accessories include: remote indicator for two-position depth sounding; conversion kit for changing range of either model. New streamlined transducer requires no fairing. Available for input voltages of 6, 12 or 32 volts D.C.

FATHOMETER* JR. INDICATOR DE-116

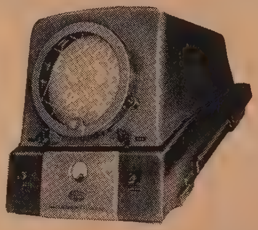


Remarkably low in cost . . . economical to operate. Large viewing window and big chart show exceptional detail, clearly marking even small fish schools. Dual depth scales, 0-150 ft. and 150-300 ft. for shallow water; 0-50 fathoms and 50-100 fathoms for deeper soundings. 6, 12 or 32 volts D.C.

FATHOMETER Cadet RECORDER DE-112

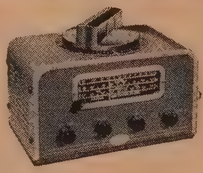
Four models: Model 1373 with dual range, 0-100 and 100-200 fathoms. Model 1373S with dual range, 0-200 and 200-400 feet for shallow water soundings. Models 1373F and 1373SF with fast chart speed for detailed recording.

FATHOMETER JR. RECORDERS DE-1373 SERIES



Big ship radar performance with 10-inch presentation in a compact model designed for smaller craft. Low in cost and reliable in operation under extreme conditions of wind, weather and icing. Easy to install and service.

MARINERS PATHFINDER Model 1500 RADAR



No larger than a table radio. Has a *beacon band, marine band* and a *broadcast band.* Bands widely-spaced for easy tuning. Unique antenna eliminates space-eating loop. Battery pack or 110 volts a.c./d.c. operation.

PORTABLE DIRECTION FINDER-RECEIVER

MODERN MARINE POWER

for every type of boat

Caterpillar Marine Diesels are built to go to work the day they're installed and *stay* at work, without fuss or bother, year after year. They're strong and simple in design, easy to operate and maintain. And their rated horsepower is *honest* horsepower—all there at the propeller.

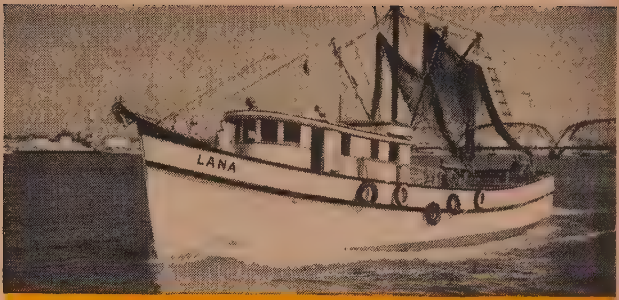
Your Caterpillar Dealer offers a full range of engine sizes, up to 500 HP, and electric sets to 315 KW. He's one of a wide network of fully equipped dealers, in coastal, river and lake ports, ready to give CAT* Engines immediate service, day or night. And he supplies genuine Caterpillar parts. There are no parts "orphans" in the Caterpillar line.

See him today. Let him help you choose the right power for your boat.

SPECIFICATIONS

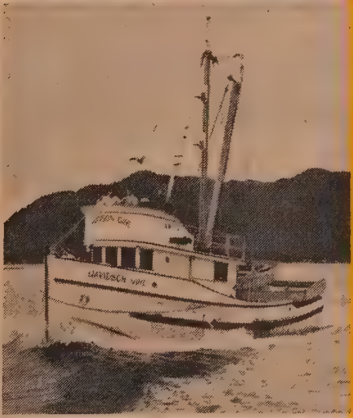
MODEL	PROPULSION ENGINES		ELECTRIC SETS
	HP†	HP††	KW††
D397	500	450	315
D386	400	360	250
D375	335	300	210
D364	265	235	165
D337	250	170	103
D326	170	121	80
D13000	187	150	100
D8800	102.5	82	50
D318	100	80	58
D315	66	53	39
D311	—	—	27

†Intermittent output (1 hour) at maximum speed and with full equipment.
††Continuous output with full equipment. For nonstop runs, 24 hours per day, every day.



The 65-foot shrimp trawler "Lana," owned by Wilbert Dinger, Berwick, La. Powered by a Caterpillar D13000 Marine Diesel.

▲ The tug "Forester," owned by American Tug Boat Co., Everett, Washington. A Cat D375 Engine gives her ample speed and power.



◀ A Cat Diesel D337 Marine Engine powers the salmon seiner "Davidson Girl," owned by Robert Davidson of Massett, B.C., Canada.

The "J. W. Rose," owned by Rose Barge Lines, Inc., Marseilles, Ill., propelled by two Cat D397 Engines. Auxiliary power supplied by two Cat D315 Electric Sets.

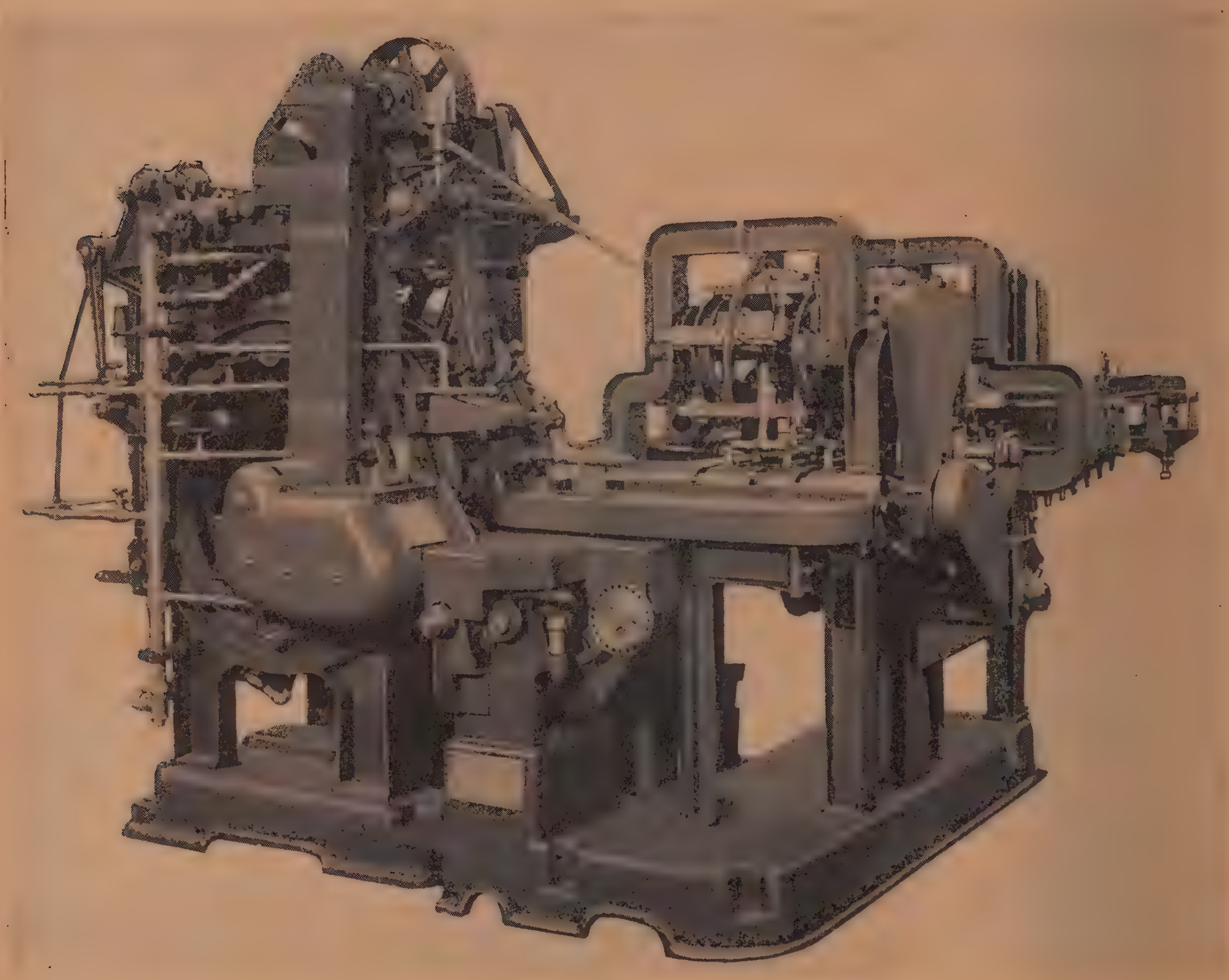
CATERPILLAR*

*Both Cat and Caterpillar are registered trademarks—®

MODERN HEAVY-DUTY POWER

The Model K "IRON CHINK"

SAVES FISH—SAVES LABOR



For consolidated operations here is a machine with capacity and economy of operation to handle the fish cleaning job.

The Model "K" "IRON CHINK" has a successful record.

SMITH CANNERY MACHINES COMPANY

SEATTLE, U. S. A.

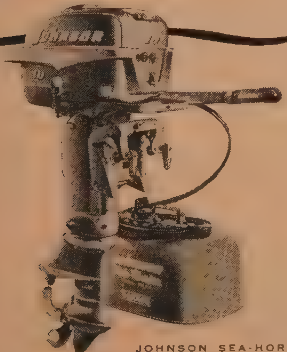
THIS TEAM
Works!

1955 SEA-HORSES

SEA-HORSE 25 Electric Starting	25 hp	$525.00*
SEA-HORSE 25	25 hp	430.00*
SEA-HORSE 10	10 hp	310.00*
SEA-HORSE 5½	5½ hp	210.00*
SEA-HORSE 3	3 hp	145.00

**Includes Mile-Master Fuel System.*

Prices f.o.b. factory, subject to change. All ratings are OBC certified brake hp at 4000 rpm.



JOHNSON SEA-HORSE 10

ALL SEA-HORSES NOW HAVE INTERNAL SALT WATER PROTECTION. NO FLUSHING NECESSARY!

Fishing 120 lobster traps a day—8 hours each day—7 days a week. That's work. For Captain Burnard Bartlett of Corea, Maine, it's a typical summer season schedule. His "partner" is a DEPENDABLE 10 hp Johnson Sea-Horse.

More and more commercial fishermen are turning to Sea-Horses. Why? Because these "go-anywhere" motors give a boat incomparable maneuverability. They're fast—powerful—smooth. They're pace setters in modern outboard features and developments. They're economical in all respects. *But*, the big reason is Johnson DEPENDABILITY—you can trust these motors . . . See the man who knows boats and motors best, your Johnson Dealer. Let him show you how a Sea-Horse can work for you. Look for his name under "Outboard Motors" in your classified phone directory.

FREE! Catalog, which fully describes the 5 great Sea-Horses for 1955—from 3 hp to 25 hp, including the Electric Starting Sea-Horse 25. Just send a post card to

JOHNSON MOTORS, 6700 Pershing Rd., Waukegan, Illinois
A DIVISION OF OUTBOARD, MARINE & MANUFACTURING COMPANY
In Canada: Manufactured by Johnson Motors, Peterborough

Johnson
SEA-HORSES
FOR DEPENDABILITY

TUBBS
EXTRA SUPERIOR MANILA
CORDAGE COMPANY

SOME ROPES CATCH MORE FISH

Minutes and seconds count when the fish are running, so the fisherman whose boat, nets, and rope are reliable is surest to bring back a catch. (Many a haul has been lost by the delay of an ill-timed breakdown.)

Because you want dependability in the rope you buy, ask for Tubbs Extra Superior Manila. Among fishermen it's a name with an honest reputation for good service.

Tubbs Extra Superior Manila is supplied in all sizes, lays, and treatments required for commercial fishing.

TUBBS
CORDAGE COMPANY

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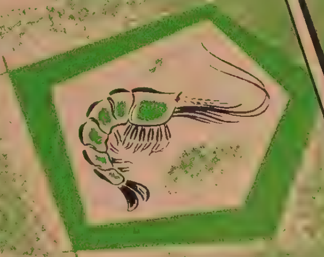
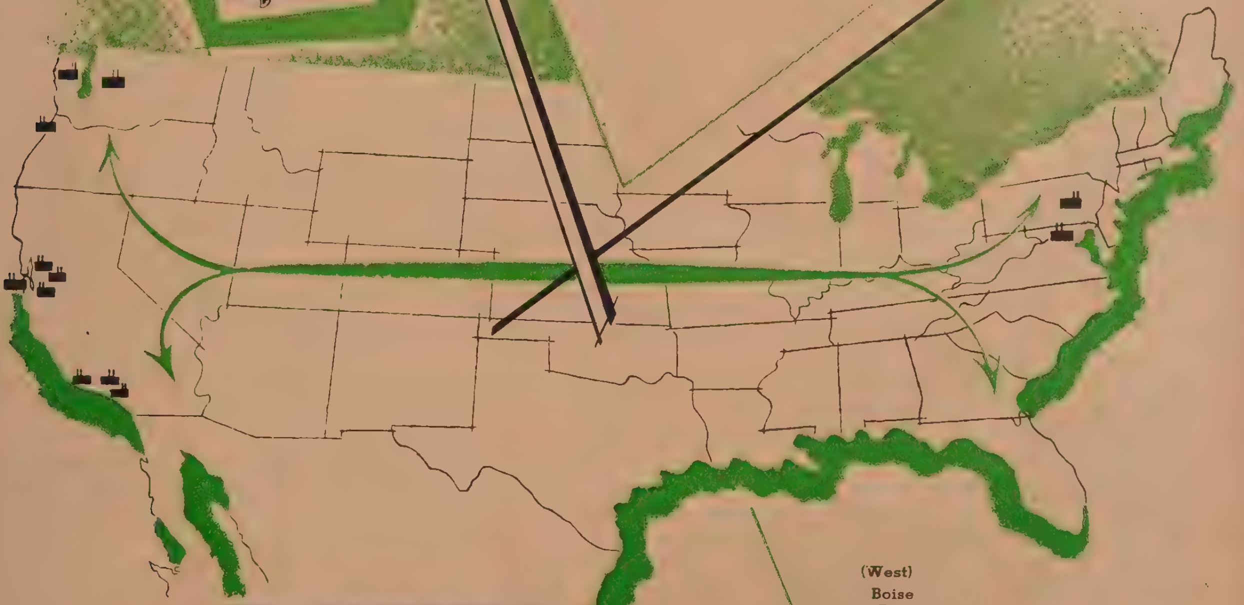
FIBREBOARD SERVES THE FISHING INDUSTRY

North • East • South • West

Fibreboard offers complete research, production, and sales facilities to help you with your particular packaging problems.





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Head Office: San Francisco 11, California

FIBREBOARD PRODUCTS (EASTERN DIVISION) INC.
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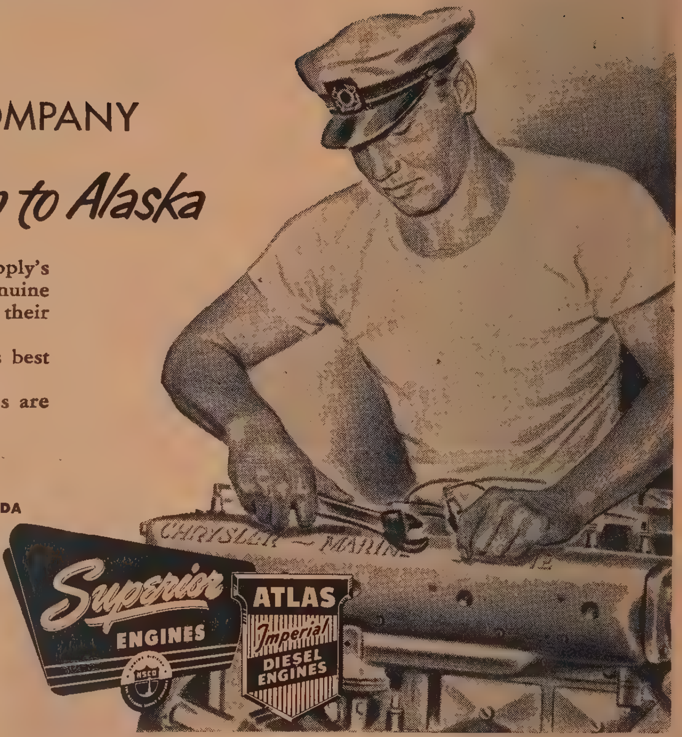
CHRYSLER marine engines

Sold and Serviced by

THE **NATIONAL SUPPLY** COMPANY

At Major Ports from Oregon to Alaska



From Portland and Astoria to Ketchikan, National Supply's Engine Division stocks Chrysler Marine Engines and genuine Chrysler parts . . . and provides modern service facilities for their repair or complete overhaul.

When you're repowering, let us help you select engines best suited for your needs.

A complete line of Chrysler, Superior and Atlas engines are available at these sales and service points:

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ROONEY'S *Semi-Automatic*

VACUUM CAN SEALER

Write today for FREE literature

A Semi-Automatic Vacuum Can Sealer to meet the demand for a small machine that will insure good, uniform seams —and can be operated and changed easily by anyone.

- **RANGE:**
  Sealer supplied with the proper change sets will seal any can from 2" to 6 3/16" diameter and from 1⅜" to 7" high.
- **SPEED OF OPERATION:**
  Machine has capacity of 600 cans per hour for No. 2½, No. 2 or smaller cans.
- **SEAMING MECHANISM:**
  Seaming mechanism is mounted on a slide bracket, which can be moved away from seaming chuck to accommodate different diameter cans, and bracket is set and taper dowelled in place for each specified can.
- **CHANGE SETS:**
  Change set consists of height spindle and seaming chuck. We use standard seaming chucks and rolls.

QUICK CHANGE-OVER MAKES ROONEY SEMI-AUTOMATIC VACUUM CAN SEALER IDEAL FOR RESEARCH LABORATORIES AND SMALL PACKERS.

- Sealer can be changed from one diameter can to another in a few minutes and does not require any seam adjustment after change.

We also manufacture the Rooney Semi-Automatic Open Can Sealer.

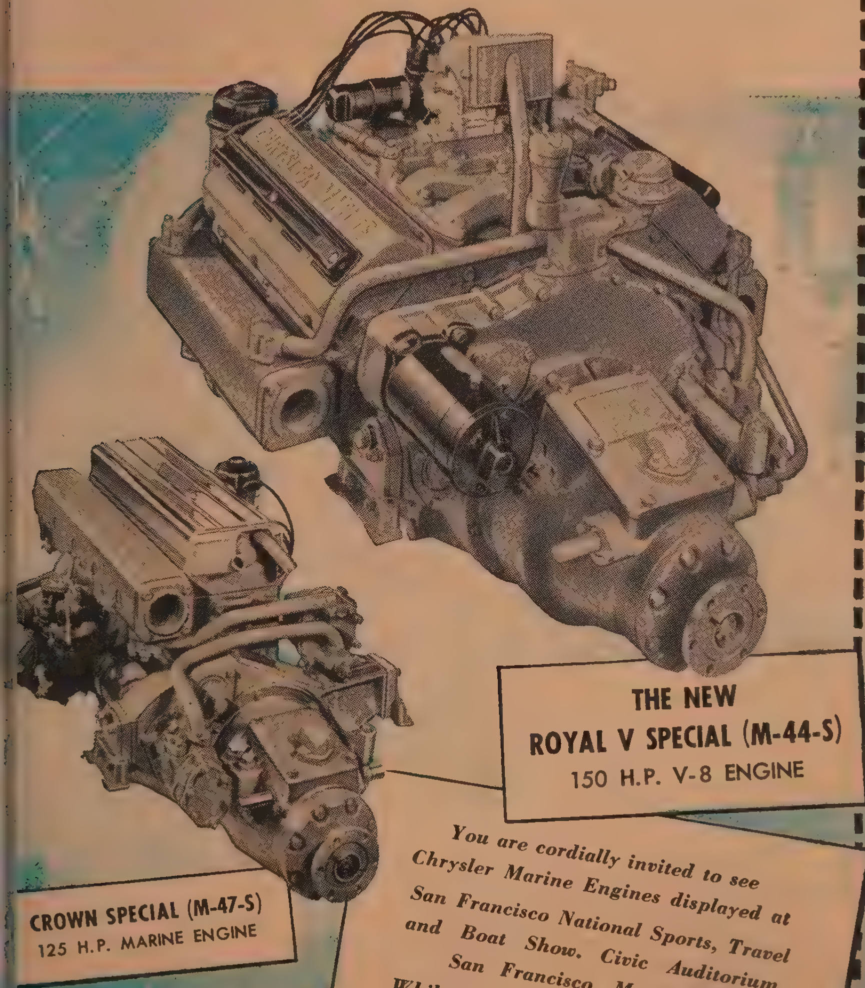
The ROONEY Vacuum Can Sealer can be used for vacuuming and gassing cans, thus eliminating necessity of a vacuum and gassing box.

ROONEY MACHINE COMPANY 717 GLADSTONE STREET, BELLINGHAM, WASHINGTON

A show of Power . . .
starring Chrysler Marine

If your blood runs faster at the beauty of a phosphorescent wake . . . if you *thrill* to the steady pulsations of a mechanical masterpiece . . . if—in your boat—you want power matching a hooked marlin for strength, an albacore for speed—power that will *anticipate* your slightest wish—power that will *command* respect . . . then, Skipper, you clearly want power by Chrysler Marine, 95 to 200 h.p. Engines. See them at Chrysler Marine Engine Dealers everywhere, and on display at leading 1955 boat shows.

(Boat builder addresses upon request: Dept. 141, Marine Engine Division, Chrysler Corporation, Trenton, Mich.)



THE NEW
ROYAL V SPECIAL (M-44-S)
150 H.P. V-8 ENGINE

CROWN SPECIAL (M-47-S)
125 H.P. MARINE ENGINE

You are cordially invited to see Chrysler Marine Engines displayed at San Francisco National Sports, Travel and Boat Show, Civic Auditorium, San Francisco, March 4-13
While there – be sure to see the new Royal V Special 150 h.p. V-8 Engine.

CHRYSLER
MERICA'S NO. 1 MARINE ENGINE
ARINE ENGINE DIVISION • CHRYSLER CORPORATION

BUILDERS OF THE FINEST AFLOAT REGULARLY INSTALL CHRYSLER MARINE ENGINES . . .

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Scottie Craft
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Sewart Seacraft
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Tucker Automarine
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Ulricksen Boat Works
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Wade & Chamberlain
Wahl Boat Works Ltd.
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  Ind., Inc.
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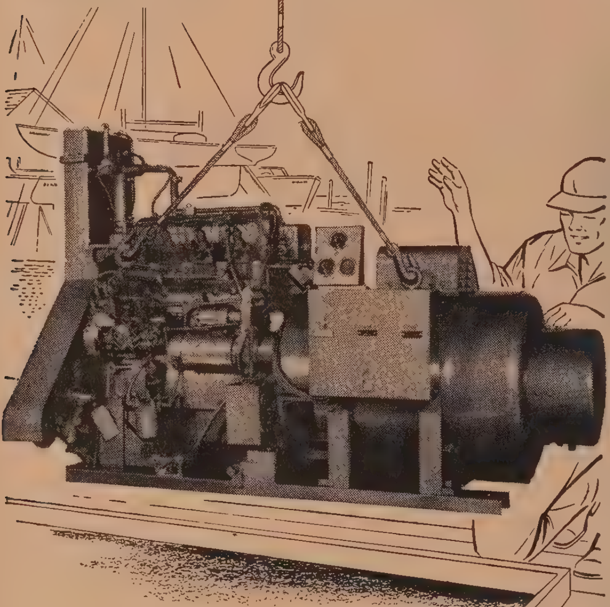

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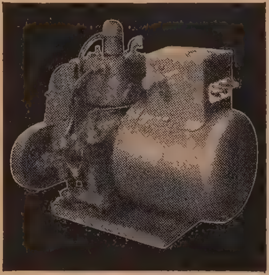

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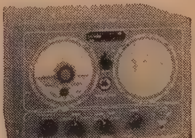

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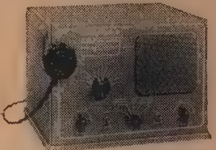

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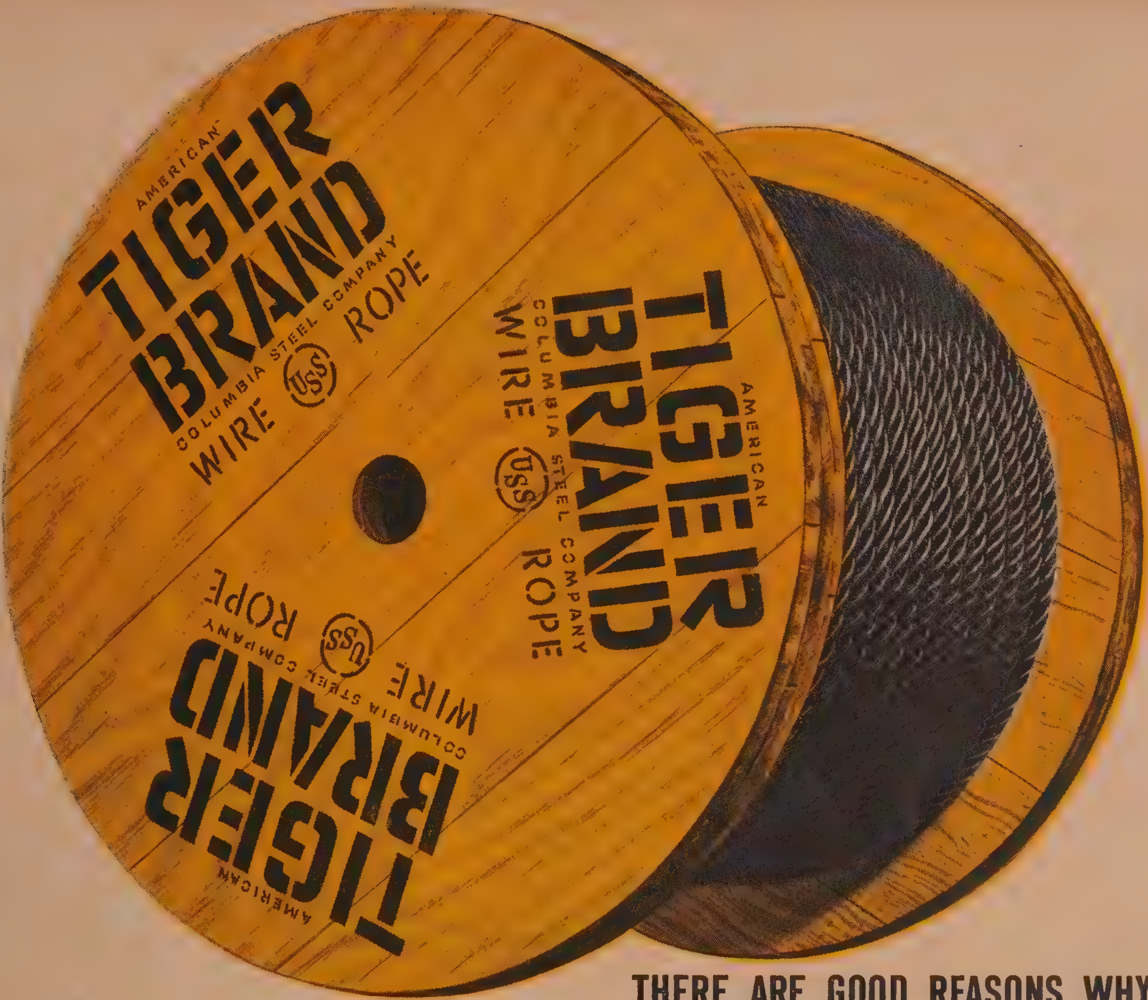

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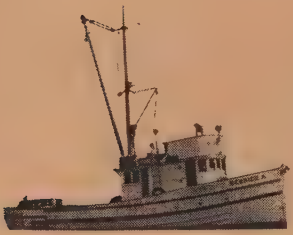

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"T5X is all that's claimed for it *and more.* Over the past six years we've logged about 15,000 hours on this engine, changing oil about every 250 to 300 hours. During this period wear has been almost negligible and the engine performs as reliably as it did when we bought it. *Everything the 'ads' say about T5X for marine diesels we've found to be true.*"

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RESULT—nets weigh less, save you money, time and labor for upkeep

Nylon is a man-made fiber. Marine organisms, fungus, mildew, oil or gasoline have little effect on nylon. This means you save the cost of preservatives and the labor of applying them . . . nets can be left in the water indefinitely—brought out only for cleaning.

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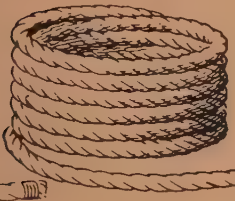
1. LASTS LONGER! Because nylon keeps its great strength, resists rot and wear, nets of nylon last longer—reduce your mending and replacement costs.

2. NEEDS NO DRYING! Nets of nylon can be used haul after haul, day after day without drying. This reduces the number of nets formerly needed to maintain continuous profitable fishing. Nylon nets can be stored wet, too.

3. ABSORBS LITTLE WATER! Nets of Du Pont nylon gain less than half the weight other nets do when wet. This makes them easier to handle, cuts your marine power costs.

4. WEIGHS LESS! Where less weight is important, nylon's great strength allows use of smaller twines, making nets lighter, easier to handle. Pound for pound, too, you get a greater length of netting with nylon.

Only nylon netting gives you *all* these important advantages and cost-saving features. When buying netting, compare the ways *nylon* can improve *your* fishing operation, cut your costs, and increase your profits. Contact your net supplier for information on the latest in nylon.



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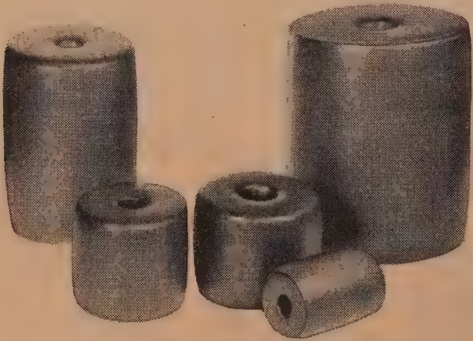
Join the growing number of fishermen now taking advantage of the new Spongex seine floats. For more information check with your supplier or write B. F. Goodrich Sponge Products Division, 145 Derby Place, Shelton, Connecticut.



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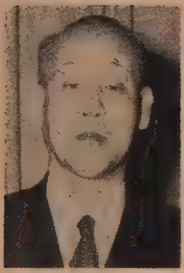

Iwao Fujita

International North Pacific Fisheries Commission, 209 Wesbrook Bldg., University of British Columbia, Vancouver 8, B. C.—Chairman, Iwao Fujita, Japan; Executive Director, Milton James.

H. A. Dunlop

International Pacific Halibut Commission, Fisheries Hall No. 2, University of Washington, Seattle 5, Wash. —Chairman, Edward W. Allen; Director of Investigations, H. A. Dunlop.

R. S. Croker

State of California, Department of Fish and Game, 926 "J" Street, Sacramento, Calif.—Director, Seth Gordon; Marine Fisheries Branch, Richard S. Croker, Chief.

International Pacific Salmon Fisheries Commission, Dominion Building, New Westminster, B. C. — Chairman, Senator Thomas Reid; Director of Investigations, Loyd A. Royal; Assistant Director, Roy I. Jackson.

L. A. Royal

Inter-American Tropical Tuna Commission, Scripps Institution of Oceanography, La Jolla, Calif. — Chairman, Virgilio Aguiluz, San Jose, Costa Rica; Secretary, John L. Farley, Washington, D. C.; Director of Investigations, Dr. M. B. Schaefer.

M. B. Schaefer

Dominion of Canada, Department of Fisheries, 1110 West Georgia St., Vancouver, B. C. — Chief Supervisor of Fisheries, A. J. Whitmore; Assistant Chief Supervisor, F. Warne; Division Engineer, C. H. Clay; Chief Statistician, B. A. Campbell.

A. J. Whitmore

J. T. Gharrett

Pacific Marine Fisheries Commission, 340 State Office Bldg., 1400 S. W. Fifth Avenue, Portland 1, Ore. — Chairman, Richard S. Croker; Co-ordinator, John T. Gharrett.

R. J. Schoettler

State of Washington, Department of Fisheries, 4015 - 20th Avenue West, Seattle 99, Wash. — Director, Robert J. Schoettler; Administrative Asistant, Donald P. Gooding; Technical Coordinator, Milo C. Bell.

John L. Kask

Fisheries Research Board of Canada, Ottawa, Canada — Chairman, Dr. John L. Kask; Pacific Advisory Committee, R. E. Walker, Vancouver, Chairman; Dr. N. M. Carter, Director, Pacific Fisheries Experimental Station, Vancouver! Dr. A. W. H. Needler, Director, Pacific Biological Station, Nanaimo, B. C.

State of Oregon, Fish Commission State Office Building, Portland 1, Oregon— Chairman, John C. Veatch; Director, M. T. Hoy.

John C. Veatch

Territory of Alaska, Department of Fisheries, Box 350, Juneau, Alaska — Director, C. L. Anderson; Chairman, Alaska Fisheries Board, Robert C. Kallenberg.

C. L. Anderson

United States Fish and Wildlife Service, Department of the Interior, Washington, D. C.—Director, John L. Farley; Assistant Director, Arnie J. Suomela.

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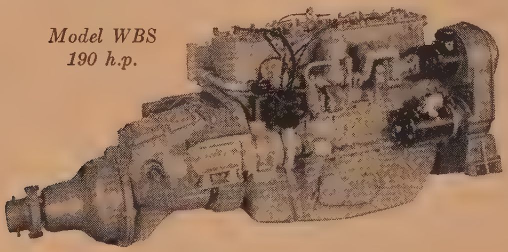

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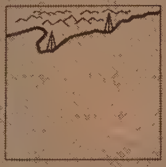

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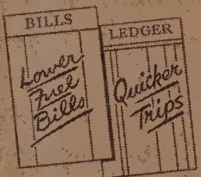

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Pacific Fisheries Organizations

(Data as of Jan. 1, 1955)

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Regional Offices, Region One, Dept. of the Interior Bldg., Portland 18, Ore.—Director, Leo L. Laythe; Assistant Directors, Samuel J. Hutchinson, Paul T. Quick.

A. J. Suomela

Alaska Regional Office, Box 2021, Juneau, Alaska—Director, Clarence J. Rhode.

Pacific Salmon Investigations, 2725 Montlake Blvd., Seattle 2, Wash.—Chief, Clinton E. Atkinson.

Salmon Cultural Laboratory, Entiat, Wash.—Chief, Roger E. Burrows.

Salmon Nutrition Laboratory, Fishery Center, University of Washington, Seattle 5, Wash.—Chief, John E. Halver.

South Pacific Fishery Investigations, 450-B Jordan Hall, Stanford, Calif.—Chief, John C. Marr.

Western Fishery Disease Laboratory, Fishery Center, University of Washington, Seattle 5, Wash.—Chief, Robert R. Rucker.

Fishery Products Laboratory, Ketchikan, Alaska—Fishery Products Technologist in charge, John A. Dassow.

Fishery Market Development, Ketchikan, Alaska—Fishery Marketing Specialist in charge, Fred W. Hipkins.

Market News Service, Post Office Bldg., San Pedro, Calif. — Fishery Market Specialist in charge, Victor J. Samson.

Commercial Fisheries Statistics, Post Office Bldg., San Pedro, Calif.

Technological Laboratory, 2725 Montlake Blvd., Seattle 2, Wash.—Chemist in charge, Maurice E. Stansby.

Fishery Educational Service, 2725 Montlake Blvd., Seattle 2, Wash.—Fishery Products Technologist in charge, Roy C. Stevens.

Exploratory Development, 2725 Montlake Blvd., Seattle 2, Wash.—Fishery Methods and Equipment Specialists, in charge, Jos. Ellson.

Market News Service, 421 Bell St. Terminal, Seattle 1, Wash.—Fishery Marketing Specialist in charge, C. M. Reardon.

Pacific Oceanic Fishery Investigations, P. O. Box 3830, Honolulu, T. H. — Director, Oscar E. Sette.

O. E. Sette

Commercial Fishery Statistics, 421 Bell St. Terminal, Seattle 1, Wash.—Fishery Marketing Specialist in charge, F. M. Wood.

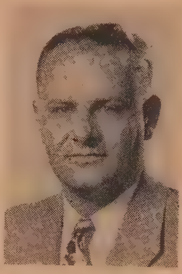
G. J. Alexander

Province of British Columbia, Provincial Department of Fisheries, Parliament Buildings, Victoria, B.C.—Minister, Hon. Ralph Chetwynd; Deputy Minister, Geo. J. Alexander.

Pacific Fisheries Conference, 71 Columbia St., Seattle 4, Wash.—Chairman, Edward W. Allen; Secretary, Montgomery Phister.

Pacific Fisheries Technologists, 898 Richards St., Vancouver 2, B. C.—President, Dr. Lyle Swain; Secretary-Treasurer, Peter A. Sunderland.

Pacific Fishery Biologists, Fisheries Center, University of Washington, Seattle, Wash. — President, Richard T. Pressey; Secretary - Treasurer, Frank G. Lowman.

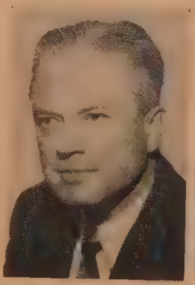


R. T. Pressey

Alaska Native Brotherhood, Juneau, Alaska—Grand President, Patrick Paul, Angoon; Grand Secretary, Cyrus Peck, Juneau.

GENERAL

School of Fisheries, University of Washington, 204 Fisheries Center, Seattle 5, Wash.—Director, Dr. Richard Van Cleve.



R. Van Cleve

W. F. Thompson

Fisheries Research Institute, Fisheries Hall No. 2, University of Washington, Seattle 5, Wash.—Director, Dr. William T. Thompson.

OPERATORS

California Fish Canners Association, Ferry Bldg., Terminal Island, Calif.—President, Donald P. Loker; Vice - President, Wm. C. Morehead; Secretary-Treasurer, K. J. Berglund; Executive Director, Charles R. Carry.

D. P. Loker

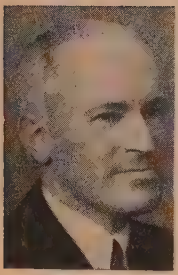
E. D. Clark

National Canners Association, Northwest Branch, 826 Skinner Bldg., Seattle, Wash.—Director, Dr. E. D. Clark, Chemist and Assistant Director, Dr. R. W. Clough; Chemist, Dr. G. Ivor Jones; Chemist, Walter V. Yonker.

DIRECTORY

Pacific Fisheries Organizations

(Data as of Jan. 1, 1955)



G. V. Graham

Association of Pacific Fisheries, 200 Colman Bldg., Seattle 4, Wash. — President, Guy V. Graham; Secretary, Dr. E. D. Clark.

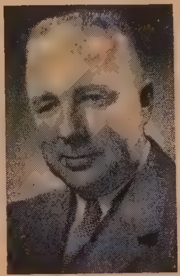
Alaska Salmon Industry, Inc., 200 Colman Bldg., Seattle 4, Wash. — President, A. W. Brindle; Managing Director, W. C. Arnold.

A. W. Brindle

J. H. Cellars

Columbia River Salmon & Tuna Packers Association, P. O. Box 60, Astoria, Oregon — Executive Secretary, James H. Cellars.

Fisheries Association of British Columbia, Room 510, Shelly Bldg., 119 West Pender St., Vancouver, B. C. — Chairman, J. M. Buchanan; Secretary, John Macdonald; Executive Assistant to the Chairman, R. F. Gadsby.



J. M. Buchanan

American Seafood Distributors Association, 917 Fifteenth St., N. W. Washington 5, D. C.—President, Leo Weil, Louisville, Ky.; Counsel, Raymond E. Steele.

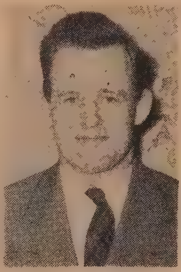
Canned Salmon, Inc., 200 Colman Bldg., Seattle 4, Wash.—President, Vance Sutter; Chairman, L. A. Petersen; Executive Secretary, Philip T. Carmichael.

Fisheries Council of Canada, Suite 33, 46 Elgin St., Ottawa, Ontario—President, H. A. Russell, St. John's, Newfoundland.

S. Sollecito

Monterey Fish Processors Association, Box 1424, Monterey, Calif. — President, Sebastian "Buster" Sollecito; Secretary - Treasurer, George Leutzinger; Consultant, George Clemens.

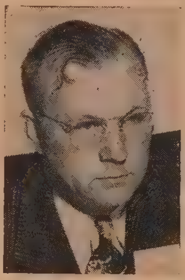
Northwest Salmon Canners Association, Colman Building, Seattle, Wash. — President, Jack Brennan; Vice - President, Joseph R. Fribock.



J. E. Brennan

National Canners Association, 1133 20th St., N.W. Washington 6, D. C.—President, E. E. Willkie; Secretary, Carlos Campbell.

National Fisheries Institute, 1614 Twentieth St., N.W., Washington 9, D. C.—President, E. M. Concannon; General Manager, Charles E. Jackson.



E. A. Ruthford

Northwest Fisheries Association, 4 Ferry Dock, Seattle 4, Wash. — President, E. A. Ruthford; Executive Secretary, Charles R. Pollock.

Pacific Herring Packers Association, 1844 Westlake North, Seattle 9, Wash.—President, J. R. Jacobson.

J. R. Jacobson

Northern California Sea Food Institute, San Francisco, Calif.—President, Joseph P. Devincezi; Secretary-Treasurer, Joseph Tarantino.

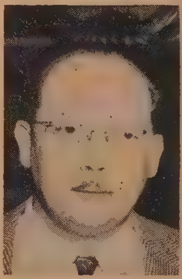
M. B. Edwards

Pacific Coast Oyster Growers Association, Rm. 4, Ferry Dock, Seattle 4, Wash. —President, Malcolm B. Edwards; Vice - President, Richard N. Steele; Secretary - Treasurer, Charles R. Pollock.

Olympia Oyster Growers Association, P. O. Box 313, Olympia, Wash. —President, Burton J. Bowman; Secretary-Treasurer, Earl R. Brenner.

Prince Rupert Wholesale Fish Dealers Association, P. O. Box 9, Prince Rupert, B. C.—Secretary, N. R. Christensen.

N. R. Christensen



H. Synnestvedt, Jr.

Puget Sound Salmon Canners, Inc., 304 Spring St., Seattle, Wash. —President, Harald Synnestvedt, Jr.; Executive Secretary, Herald A. O'Neill.

San Francisco Sardine Association, Pier 92, San Francisco 11, Calif.—President, John Costanza; Secretary - Treasurer, George J. Christo.

John Costanza

Shrimp Association of the Americas, Pan American Bldg., 1055 E. Elizabeth St., Brownsville, Texas—Executive Secretary, J. E. Barr.

Southern California Fisheries Association, 746 S. Alvarado St., Los Angeles, Calif.—President, Joseph Sulentor; Executive Director, Edmund Gund.

DIRECTORY

Pacific Fisheries Organizations

(Data as of Jan. 1, 1955)

VESSEL OWNERS

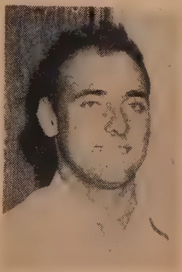
H. F. Cary

American Tuna-boat Association, 1 Tuna Lane, San Diego 1, Calif. — President, W. Wade Ambrose; General Manager, Harold F. Cary; Director of Research, Dr. Wilbert M. Chapman.

Alaska Herring Skippers Association, 800 American Bldg., Seattle 4, Wash.—President, Bernt Gjerde; Business Manager, G. Bradley Dalton.

British Columbia Gillnetters Association, Room 207, 26 Lorene St., New Westminster, B. C.—President, Robert Karliner, Jr.; Vice-President, Frank Wilson; Secretary, R. Folley.

California Commercial Fishermen's Association, Inc., 745 South Seaside, Terminal Island, Calif.—President, R. C. Carpenter; Vice - President, Richard Karlsson; General Manager, Mason Case.



R. C. Carpenter

B. G. Johnston

Fishermen's Co-Operative Association, Pier 55, Seattle, Wash. — President, Adam Kanzler; Vice-President, Harry McCool; Secretary-Treasurer, B. G. Johnston.

Fishermen's Co-operative Association, Berth 73, San Pedro, Calif. —President, Tony Barcott; General Manager, John Real; Assistant Manager, Mason Case.

John Real

Fishermen's Cooperative Association, 2195 Commissioner St., Vancouver 6, B. C.—President, M. Warnock; Secretary and Manager, C. J. Phillipson.

Fishermen's Co-Operative Federation, 8195 Commissioner St., Vancouver 6, B. C.—President, Perry York; General Manager, T. H. Sorensen; Secretary, K. F. Harding.

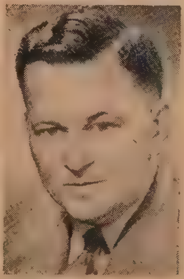
A. B. Bernard

Fishermen's Marketing Association of Washington, Pier 59, Seattle, Wash. — President, Andrew Bud Bernard; Secretary-Treasurer, Manager, Nick P. Kuljis.

Fishing Vessel Owners Association, Pier 59, Seattle, Wash. — President, Sig Hendricks; Manager, Harold E. Lokken.

H. E. Lokken

Fishermen's Marketing Association, Carson Bldg., Eureka, Calif.—President, Fred Thebus; Vice-President, Arne Grotting; Secretary, W. O. Riley.



H. A. Christenson

Fishing Vessel Owners Association of British Columbia, 193 E. Hastings St., Vancouver, B. C. — President, Norman Gunderson; Secretary - Manager, Harold A. Christenson.

Juneau Fishing Vessel Owners Association, Box 668, Juneau, Alaska—President, John Lowell; Secretary-Treasurer, Edmund Krause.

Ketchikan Fishing Vessel Owners Association, P. O. Box 688, Ketchikan, Alaska—President, Nels Larsen.

J. J. Camillo

Lower California Fisheries Association, 935 West Harbor Drive, San Diego 1, Calif. — President, Anthony S. Chiappe; Business Manager, J. J. Camillo.

LaConner Fishermen's Cooperative Association, LaConner, Wash.—Secretary-Manager, William Alvord.

Massett Cooperative Association, Massett, B. C.—President, Noel Taylor; Secretary, George A. Hawkes.

L. Goulart

Monterey Fishermen's Association, Monterey, Calif.—President, Leonard Goulart; Secretary-Treasurer, Ernest Martins.

Monterey Purse Seiners Association, 9 Municipal Wharf, Monterey, Calif. —Secretary, Horace Balbo.

Northern Fishing Vessel Owners Association, Sitka, Alaska — President, Pete Crews; Vice-President, Frank Ward; Secretary, Myrth Sarvela.

Myrth Sarvela

A. J. Anderson

Off-Shore Fishing Vessel Owners Association, P. O. Box 838, 51 Ninth St., Astoria, Oregon — President, Arthur J. Anderson; Treasurer, Sverre Koppen.

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Pacific Fisheries Organizations

(Data as of Jan. 1, 1955)

Mason Case

Pacific Coast Fish Producers Institute, Terminal Island, Calif. — Chairman, Mason Case, Vice - Chairman, Charles L. White, San Diego, Calif.; Secretary - Treasurer, Harold Lokken, Seattle, Wash.

Pacific Coast Purse Seiners' Association, Pier 59, Foot of Pike St., Seattle 1, Wash. —President, E. L. Haarsager; Vice-President, Conrad Ness; Secretary, Arthur Edwards.

E. L. Haarsager

V. A. Counter

Petersburg Vessel Owners Association, Petersburg, Alaska—Secretary-Treasurer, Vernon A. Counter.

Prince Rupert Fishermen's Co-Operative Association, Prince Rupert, B.C.—President, Martin Eriksen. Secretary and Manager, K. F. Harding.

Prince Rupert Fishing Vessel Owners' Association, Prince Rupert, B. C.—President, Harold Helland; Secretary, Hans Petersen.

H. Helland

J. Repanich

Purse Seine Vessel Owners Association, 5301 North Ruby St., Tacoma, Wash.—President, Jack Repanich; Secretary, Nick Mladinich.

Puget Sound Gillnetters Association, 3417 Broadway Avenue, Everett, Wash.—President, Joe Burrows; Vice-President, Lud Bretvick; Executive Secretary, Russ Benito.

Nic Cordileone

San Diego Commercial Fishing Boat Owners, Inc., 4904 N. Harbor Drive, San Diego 6, Calif.—President, Nic Cordileone; Secretary - Treasurer, E. L. Bradley.

Southern California Fishermen's Association, 418 Harbor Lane, San Diego, California—President, Victor Nigro; Vice - President, Jimmie Nigro; Secretary-Treasurer, Louis V. Nigro.

Victor Nigro

San Francisco Crab Boat Owners Association, 2907 Jones St., San Francisco, Calif.—President, Gaetano Di-Angelo; Secretary - Treasurer, Emil Barbaro.

Washington Reef Net Owners Association, 2426 Chuckanut Shore Road, Bellingham, Wash.—President, Paul Gerard; Executive Secretary, Jerry Anderson.

UNIONS

G. Johansen

Alaska Fishermen's Union, 84 Union St., Seattle, Wash. — Secretary - Treasurer, George Johansen.

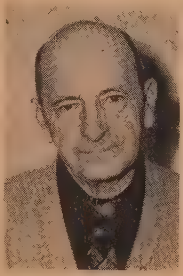
Cannery Workers & Fishermen's Union, 640 State St., San Diego 1, Calif. — Secretary-Treasurer, Lester Balinger.

Jim Downey

Bristol Bay Cannery Workers Local 46 SIU-AFL, Dillingham, Alaska—Business Agent, Secretary-Treasurer, Jim Downey.

Cannery Workers Union of the Pacific, AFL, 450 Seaside Ave., Terminal Island, Calif.—President, James Waugh.

Jas. Waugh



C. F. Henne

Columbia River Fishermen's Protective Union, 166 10th St., Astoria, Oregon. — President, R. G. Bristow; Executive Secretary, Chas. F. Henne.

Cordova District Fisheries Union, Box 939, Cordova, Alaska — Executive Secretary, Harold Z. Hansen.

H. Z. Hansen

Deep Sea Fishermen's Union of the Pacific, 5215 Ballard Ave., Seattle, Wash.—Secretary - Treasurer, Harold Grotle; Seattle Agent, Helge Pedersen; Ketchikan Agent, John Caspersen.

Deep Sea Fishermen's Federal Union of B. C., Prince Rupert, B. C. —President, Hilmar Mork; Secretary, W. H. Brett.

Fishermen's Union Local 33, I. L. W. U., 339 7th St., San Pedro, Calif. —Secretary, Anthony D. Sokolich.

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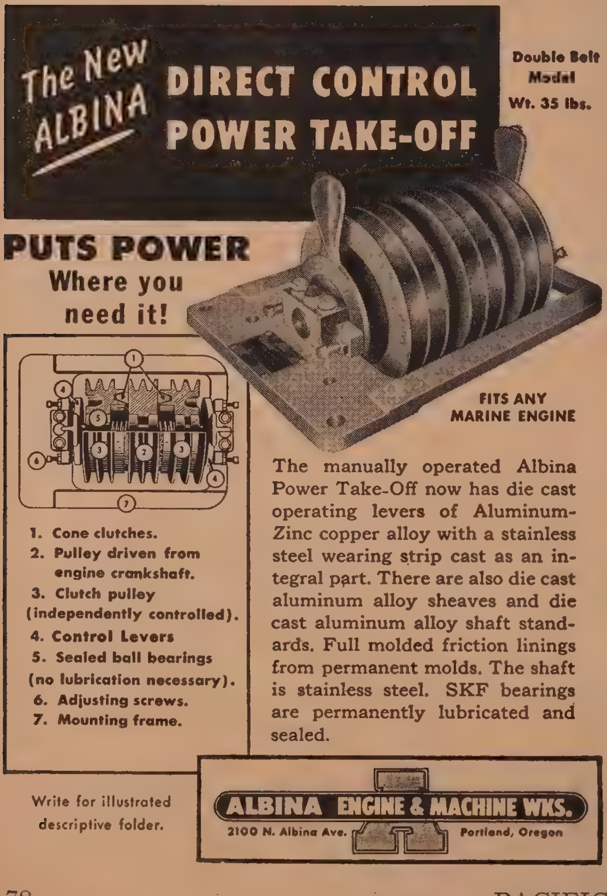

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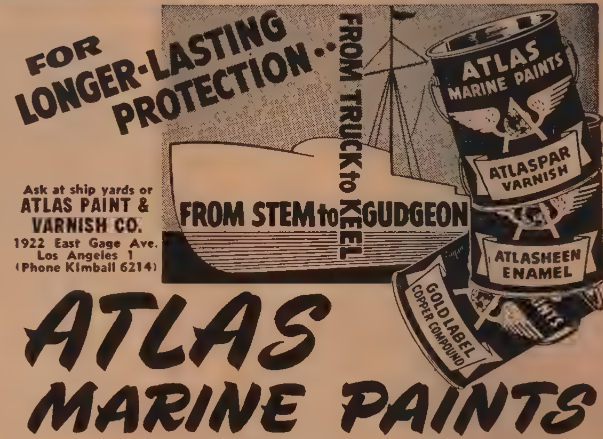

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Pacific Fisheries Organizations

(Data as of Jan. 1, 1955)

Fisheries Division, International Longshoremen's & Warehousemen's Union, 150 Golden Gate Avenue, San Francisco, Calif. — Regional Offices: Southern California, Director, F. T. Moore, 5851 Avalon Blvd., Los Angeles, Calif.; Northern California, Director, William Chester, 150 Golden Gate Ave., San Francisco, Calif.; Northwest and Alaska, Director, William Gettings, 84 Union St., Seattle, Wash.

Local 3, Secretary, Robert Cummings, 84 Union St., Seattle, Wash.

Local 16-C, Secretary, Dora Bigornia, Cannery Workers, Box 1195, Juneau, Alaska.

Local 22, Secretary, Max L. Haube, Box 237, Cannery Workers, Petersburg, Alaska.

Local 30, Secretary, W. M. McCall, Box 379, Ketchikan, Alaska.

Local 33, Secretary, Anthony Sokolich, 339 West 7th St., San Pedro, Calif.

Local 37, Secretary, Matias L. Lagunilla, Alaska Cannery Works, 213 Main St., Seattle, Wash.

Local 38, Secretary, Alice Still, 17 Commercial St., Eureka, Calif.

Local 61-C Cannery Workers, Secretary, Ruby Currie, Box 1535, Ketchikan, Alaska.

Local 64, Secretary, Flora Mather, Metlakatla, Alaska.

Local 65, Secretary, Edith Bean, Hoonah, Alaska.

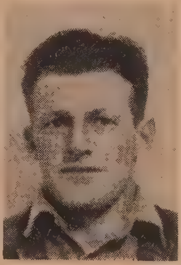
C. F. Snyder

Fish Cannery Workers and Fishermen's Union of the Pacific, San Francisco and Moss Landing Bay Areas Local. 257 Fifth St., Richmond 5, Calif.—Secretary-Treasurer, Charles F. Snyder; Assistant Secretary-Treasurer, Pete Guzman, San Francisco Branch, 16th and Capp Sts.; Moss Landing Branch, Box 34, Moss Landing, Calif.

Otter Trawlers Union, Box 983, Astoria, Oregon — President, Aldrich Veuhkola; Vice-President, Arthur L. Anderson; Secretary-Treasurer, Paul E. Graves.

Paul E. Graves

Seine & Line Fishermen's Union of L. A., 261 West 7th St., San Pedro, Calif.—Business Agent-Secretary, John Calise.



Ott Rutzer

Shoalwater Bay Oyster Workers Union, Local No. 14, SIU - AFL, Nahcotta, Wash. — Secretary, Ott Rutzer.

Seine and Line Fishermen's Union of Monterey, 233 Alvardo St., Monterey, Calif.—President, Frank Monaco; Business Agent-Secretary, John Crivello.

United Fishermen of Alaska; A. F. L., P. O. Box 501A, Kodiak, Alaska—President, A. J. Cichoski; Secretary, P. J. Kerrigan.

United Fishermen & Allied Workers' Union, 138 East Cordova St., Vancouver 4, B. C.—President, H. (Steve) Stavenes; Secretary, Homer Stevens; Business Agent, Alex Gordon.

United Cannery Workers of Kodiak Island SIU-AFL, P. O. Box 47, Kodiak, Alaska—President, Eldon Lester; Secretary-Treasurer, P. J. Kerrigan.

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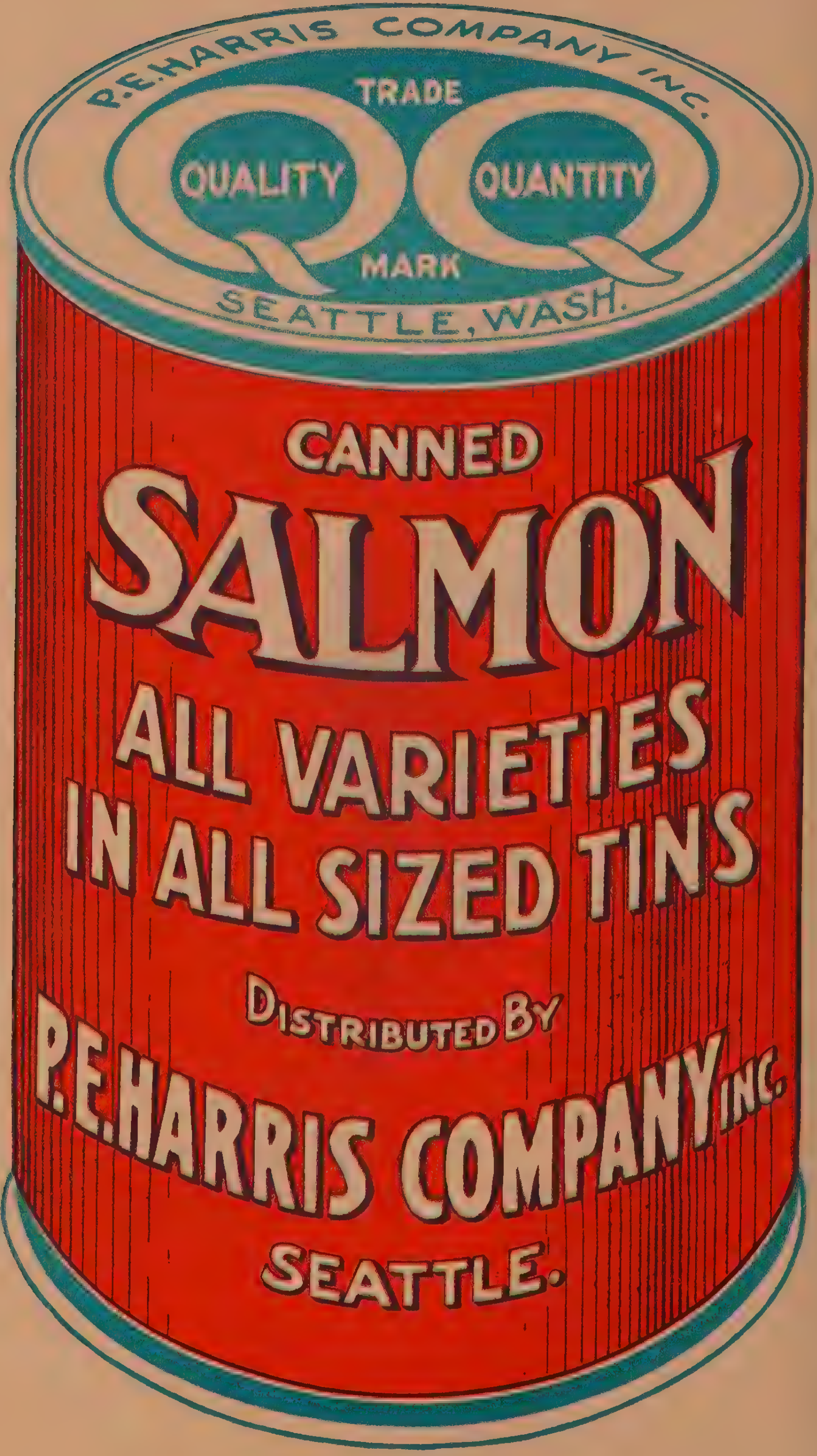
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HAWK INLET **FALSE PASS**

SALMON

North American salmon canning in 1954 produced 5.9 million cases, valued at $133 millions.

This represented a gain of approximately 285,000 cases in volume and $10.4 millions in value as compared with the previous salmon season.

● Two million cases of Red Sockeye salmon and 1.9 million cases of Chums featured the canned salmon yield of North America's Pacific salmon fisheries of 1954.

Pinks were short of both leading varieties, it being an even-numbered year.

Shortage of Red salmon in Alaska, where the Bristol Bay production was bitterly disappointing, was compensated for to a degree by the surprising production of this species in British Columbia and on Puget Sound.

Value of the Pacific canned salmon production of 1954 rose by $10 million over the previous year, due essentially to up-grading in character rather than to gain in volume or in price, although both of these factors played a part.

While Alaska production was variable, swinging from excellent to disastrous by districts, British Columbia again in 1954 enjoyed an excellent season, although somewhat less in volume than the year before. The large percentage of Sockeyes in the pack carried the value of the Canadian salmon pack to the highest level ever known.

● *BRISTOL BAY SUFFERS* — Adverse developments of the 1954 Alaska salmon season fell heavier on Bristal Bay than any other region—and particularly upon the shore canneries of the Naknek-Kvichak district.

A good season was not expected, due to the off-cycle and the severe limitation imposed upon gear by the Federal regulations applying the "Farley Plan" with its goal of a 50% reduction in fishing intensity.

Shore plants voluntarily sought to conform to this program, but the floaters did not—thus creating a gear balance favoring the freezerships.

Moreover, the Naknek-Kvichak run—the real backbone of the Bristol Bay production — fell far below expectations. As result, severe losses were sustained by almost all shore operators in spite of stringent economies and close consolidation of packing effort.

The Ugashik district was the marked exception, with a spectacular run, at least in comparison with the other areas.

● *KODIAK BRIGHT*—With the best packs of both Pinks and Chums in a number of years, the Kodiak district had a good season generally in 1954 in spite of the disappointing failure of the Red run, notably at Karluk.

This area yielded exceptionally well, with a heavy and sustained Pink run in mid-season. As in so many districts, Chums were notably strong throughout the season.

● *COOK INLET KEEPS UP*—In a year when the prophets of doom expected that surely the effects of heavy fishing following the expansion of the drift net fishery would be manifest, Cook Inlet came-up with one of the best over-all packs in its history. This was despite the fact that the Red pack was below the peaks of some years, although better than in either of the

1954-Pacific Canned Salmon Packs and Values-1954

DISTRICT	Red, Sockeye or Blueback		PINK		CHUM		SILVER or COHO		KING or CHINOOK and Steelhead		TOTAL	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value
Alaska	832,794	$24,185,988	1,158,271	$23,696,336	1,036,574	$15,725,411	169,187	$4,102,896	49,063	$1,369,022	3,245,889	$69,079,653
Washington	511,141	16,619,105	1,049	26,944	287,108	3,750,672	28,492	815,779	17,862	1,350,842	845,652	22,563,342
Oregon	5,720	223,648	...	...	4,551	82,724	11,383	345,676	71,399	1,821,671	93,053	2,473,719
California	...	...	...	...	...	...	77	2,156	237	7,347	314	9,503
Total U. S. A.	1,349,655	41,028,741	1,159,320	23,723,280	1,328,233	19,558,807	209,139	5,266,507	138,561	1,548,882	4,184,908	94,126,217
British Columbia	680,930	21,789,760	335,777	5,876,088	580,508	8,127,112	128,377	3,089,048	17,132	411,168	1,742,724	39,293,176
Grand Total	2,030,585	62,818,501	1,495,097	29,599,368	1,908,741	27,685,919	337,516	8,355,555	155,693	4,960,050	5,927,632	133,419,393

NOTE – Salmon shipped from Alaska and canned elsewhere are included, as far as possible, in the Alaska pack. The Washington pack includes considerable quantities of fish imported from British Columbia and canned on Puget Sound.

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1954 -PACIFIC CANNED SALMON PACK- 1954

(Figures reduced to uniform basis of 48-lb. (full case) units. Alaska pack includes fish shipped from Alaska and canned elsewhere.)

Species	Alaska	Puget Sound	Columbia River	Coastal Areas	Total U.S.	British Columbia	Grand Total
Red or Sockeye	832,794	504,362	8,259	4,240	1,349,655	680,930	2,030,585
Pink	1,158,271	1,049	...	...	1,159,320	335,777	1,495,097
Chum or Keta	1,036,574	266,931	12,973	11,755	1,328,233	580,508	1,908,741
Coho or Silver	169,187	27,081	12,736	135	209,139	128,377	337,516
Chinook or King	49,063	4,861	71,838	242	126,004	14,064	140,068
Steelhead	...	...	12,557	...	12,557	3,068	15,625
Total	3,245,889	804,284	118,363	16,372	4,184,908	1,742,724	5,927,732

two immediately preceding seasons.

Pinks were excellent—1954 being the even year—and with a good run of Chums they carried the total to impressive limits just above 350,000 cases.

The bitter medicine of virtually complete closure prescribed for Prince William Sound resulted in escapement there which is generally considered satisfactory; but of course the pack was held to only about 5,000 cases, put up by two small canning operations.

● *COPPER RIVER RICH*—Another spectacular year occurred on the Copper River, where the pack ran well over 100,000 cases for the second year out of the last three. With the exception of the big pack of 122,000 cases in 1952, the 1954 pack was the largest ever recorded for this stream, with the area's high quality Reds making up about 103,000 cases of the total.

This river, staging a strong comeback in production, was threatened during 1954 when the Federal Power Commission granted preliminary permit to the Harvey Machine Co. alu-

NORTH AMERICAN CANNED SALMON PACK

Year	Red, Sockeye or Blueback	Pink	Chum or Keta	Medium Red Coho or Silverside	King or Chinook	Steelhead Trout	Total Cases	Year
1898	1,594,162	109,399	51,530	282,589	398,564	26,277	2,462,521	1898
1899	2,153,388	401,892	61,932	261,071	334,974	11,994	3,225,251	1899
1900	2,046,908	232,022	155,208	208,026	338,493	20,597	3,001,254	1900
1901	3,801,730	585,017	86,230	126,535	455,395	20,000	5,074,907	1901
1902	2,702,045	549,602	313,603	227,031	379,641	8,593	4,180,515	1902
1903	2,231,555	564,507	61,232	330,319	403,836	7,251	3,598,700	1903
1904	1,950,949	299,333	168,235	168,235	444,472	9,868	3,041,092	1904
1905	3,488,322	253,559	138,642	269,806	443,794	9,822	4,603,945	1905
1906	2,122,204	416,602	450,151	397,346	424,974	6,500	3,817,777	1906
1907	1,707,813	1,114,100	272,135	397,786	354,209	6,604	3,852,647	1907
1908	2,186,325	726,656	303,837	386,745	379,171	11,863	3,994,597	1908
1909	3,671,555	882,410	218,987	373,567	262,554	17,382	5,426,455	1909
1910	2,274,780	589,043	555,908	521,966	372,901	5,576	4,320,174	1910
1911	1,869,927	2,373,595	592,790	676,141	627,714	8,618	6,104,887	1911
1912	2,544,435	1,556,128	808,630	621,817	426,338	7,198	5,956,953	1912
1913	4,643,425	2,392,166	432,812	300,033	285,472	9,539	8,063,447	1913
1914	3,121,964	1,222,013	1,200,433	579,980	509,100	11,292	6,644,782	1914
1915	2,492,865	2,825,570	1,107,707	551,821	641,979	29,650	7,639,592	1915
1916	2,432,048	2,036,077	1,500,332	715,815	646,341	24,999	7,355,612	1916
1917	3,248,843	3,929,332	1,648,313	588,749	673,980	35,677	10,124,894	1917
1918	2,987,710	2,953,245	2,175,031	838,088	697,140	41,086	9,692,300	1918
1919	1,707,846	2,426,414	2,367,481	793,175	704,195	24,392	8,023,503	1919
1920	1,892,691	2,138,959	1,175,001	361,566	705,050	16,054	6,289,321	1920
1921	2,034,310	1,038,090	359,947	362,943	419,508	11,362	4,226,160	1921
1922	2,480,811	2,241,760	908,283	510,919	353,588	26,640	6,522,001	1922
1923	2,309,142	3,371,917	1,120,591	534,225	389,802	27,757	7,753,434	1923
1924	1,902,832	3,295,739	1,835,251	542,682	406,096	31,270	7,990,543	1924
1925	1,581,792	3,111,320	1,803,371	667,817	550,071	17,248	7,731,610	1925
1926	2,550,771	4,101,422	1,762,134	607,778	485,783	86,233	9,544,126	1926
1927	1,738,054	2,241,304	1,217,338	642,522	538,574	33,377	6,411,169	1927
1928	2,214,498	3,583,433	2,165,652	602,203	354,798	17,492	8,938,076	1928
1929	2,100,787	3,775,764	1,541,213	564,826	375,497	24,821	8,382,908	1929
1930	1,710,018	4,266,301	1,085,351	758,451	427,282	18,509	8,265,912	1930
1931	2,084,385	3,890,755	671,574	388,140	418,483	13,679	7,467,016	1931
1932	2,484,459	2,341,966	1,313,537	446,706	394,830	14,386	6,995,884	1932
1933	2,579,891	3,259,341	1,021,547	402,107	343,442	19,486	7,625,814	1933
1934	3,354,863	4,261,262	1,362,905	596,951	352,752	16,183	9,944,916	1934
1935	1,232,852	4,139,114	1,303,216	596,117	279,693	15,484	7,566,476	1935
1936	2,968,184	5,181,954	1,846,675	533,285	313,795	20,350	10,864,243	1936
1937	2,494,302	4,532,487	1,233,999	369,916	385,986	18,412	9,035,372	1937
1938	3,125,176	3,623,435	1,387,245	595,380	234,520	16,283	8,982,039	1938
1939	2,280,088	3,412,392	1,054,858	472,239	254,930	26,090	7,500,597	1939
1940	1,402,999	3,124,292	1,553,389	592,395	286,485	34,443	6,994,003	1940
1941	1,763,852	5,218,427	1,770,225	831,279	422,989	36,597	10,043,369	1941
1942	1,860,044	3,088,724	1,723,193	616,687	343,369	26,507	7,658,524	1942
1943	2,169,091	2,913,760	1,258,239	377,160	196,000	19,357	6,933,608	1943
1944	1,869,365	2,478,750	1,239,548	383,040	223,088	23,143	6,216,934	1944
1945	1,556,200	3,374,192	1,041,387	457,680	194,056	22,125	6,645,640	1945
1946	1,893,469	2,176,817	1,267,478	316,968	230,811	21,880	5,907,423	1946
1947	2,197,569	2,962,281	1,127,496	438,087	366,620	25,325	7,117,378	1947
1948	1,994,733	1,630,411	1,551,190	577,726	354,475	26,027	6,134,562	1948
1949	1,335,248	3,946,309	946,615	492,871	229,031	11,305	6,961,380	1949
1950	1.698.290	1.544.327	1,816.745	468,768	215,114	13,777	5,757,022	1950
1951	1,364,419	2,737,445	1,443,330	779,725	258,530	18,517	6,601,966	1951
1952	1,862,844	1,850,890	1,375,214	461,629	168,150	22,763	5,741,490	1952
1953	1,672,714	2,189,770	1,359,134	317,314	170,614	22,369	5,731,915	1953
1954	2,030,585	1,495,097	1,908,741	337,516	140,068	15,625	5,927,632	1954
10 YR. AVERAGE	1,760,607	2,390,754	1,383,733	464,828	232,747	19,971	6,252,640	10 YR. AVERAGE

NOTE: – Figures represent full cases of 48-lbs. net. "Average" is for the last ten years. Figures for the last year shown are from PACIFIC FISHERMAN'S compilation; those for previous years have been revised from official data.

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from the **H***eight of the run*

handled **I***ntelligently*

by people of **E***xperience*

with profound **L***oyalty to customers*

SAN JUAN
ALASKA RED
SALMON

CALVERT
PINK
Alaska
SALMON

Ship Ahoy
ALASKA CHUM
SALMON

WALTER P. SHIEL & CO.
CANNED SALMON DISTRIBUTORS
5506 WHITE-HENRY-STUART-BUILDING
SEATTLE 1, WASHINGTON

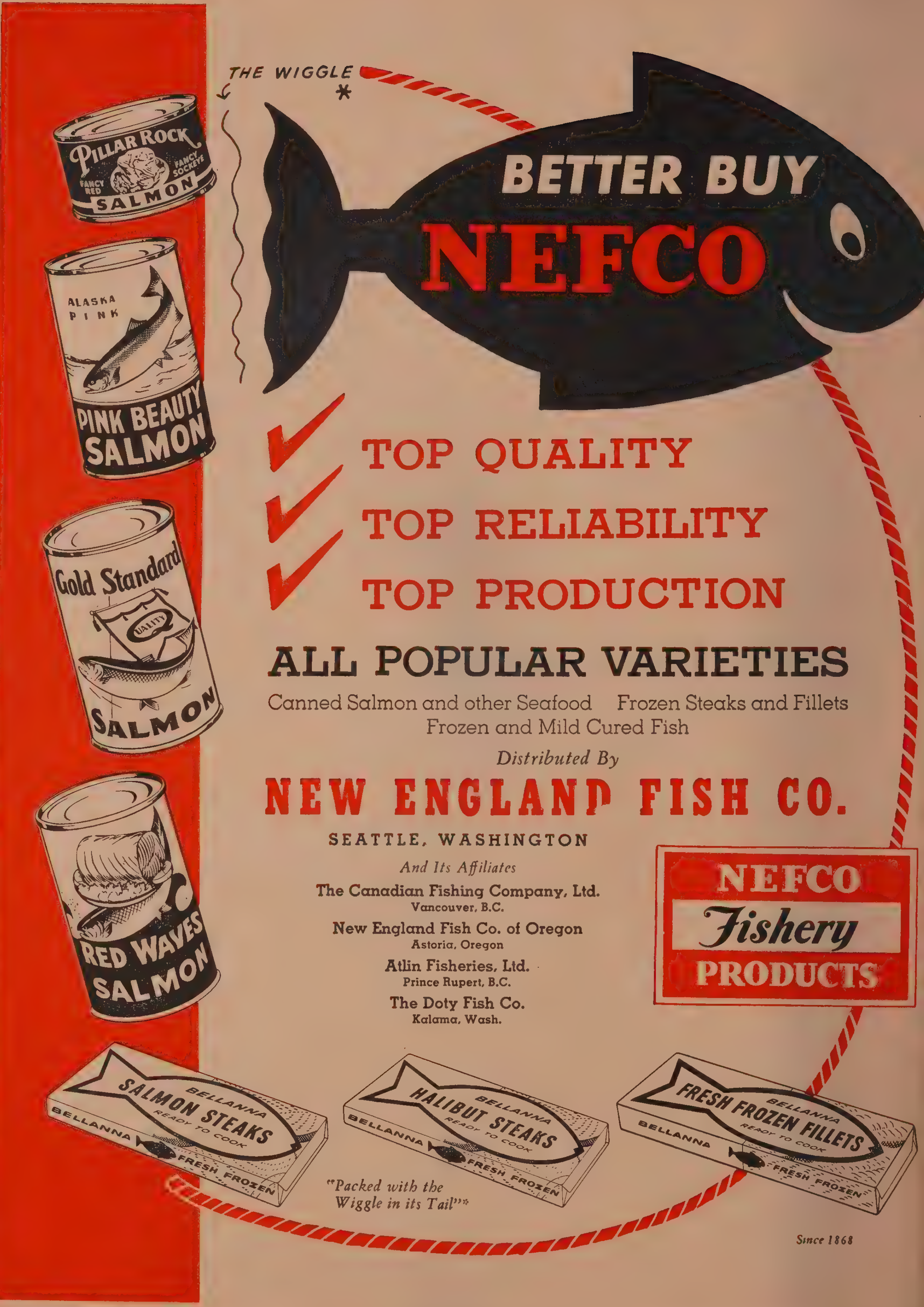
Representing

EGEGIK PACKING CO.
INTERCOASTAL PACKING CO.
NORTHERN COMMERCIAL CO.
SAN JUAN FISHING & PACKING CO.
TODD PACKING CO.
UGANIK FISHERIES, INC.

PACK OF ALASKA CANNED SALMON BY DISTRICTS

Year	SOUTHEAST ALASKA							CENTRAL ALASKA							WESTERN ALASKA									
	Plants Operated	Red	Pink	Chum	Coho	King	Total Cases	Plants Oper.	Red	Pink	Chum	Coho	King	Total Cases	Plants Oper.	Red	Pink	Chum	Coho	King	Total Cases	# Plants Operated	TOTAL CASES	Year
1905	13	207,375	142,008	37,685	41,079	5,460	433,607	9	345,575	3,235	. . .	16,518	6,427	371,755	25	1,021,478	23,354	4,287	9,797	30,238	1,089,154	47	1,894,516	1905
1906	20	250,567	326,713	131,405	84,149	2,396	795,230	8	451,659	3,188	. . .	10,316	7,861	473,024	19	798,504	19,866	123,407	16,278	20,680	978,735	47	2,246,989	1906
1907	22	177,149	542,268	140,392	58,632	1,289	919,730	8	482,968	10,255	. . .	15,258	14,355	522,836	18	657,687	18,244	44,025	11,784	27,794	759,534	48	2,202,100	1907
1908	23	198,366	592,638	180,204	48,963	2,552	1,022,723	8	377,101	30,661	. . .	11,543	6,416	425,721	19	1,087,211	20,834	38,309	8,426	14,824	1,169,604	50	2,618,048	1908
1909	19	280,542	455,999	83,001	39,920	857	860,319	8	358,285	5,581	. .	10,275	16,913	391,054	18	1,074,667	3,293	37,711	6,361	30,264	1,152,296	45	2,403,669	1909
1910	23	282,265	494,363	231,735	82,620	402	1,091,385	10	364,875	31,797	131	19,928	15,786	432,517	19	825,447	31,348	22,352	11,641	24,087	914,138	52	2,438,777	1910
1911	32	238,895	969,866	290,843	100,793	1,441	1,601,838	11	412,647	24,143	2,008	17,326	15,862	471,986	21	669,163	27,347	10,969	11,585	28,075	747,139	64	2,820,963	1911
1912	51	254,851	1,053,847	589,578	134,914	6,607	2,039,777	14	422,347	136,891	29,591	19,782	14,198	622,809	22	1,227,060	114,247	19,359	15,088	21,789	1,397,543	87	4,060,129	1912
1913	42	190,685	1,299,400	254,689	58,071	1,006	1,803,851	14	364,253	49,299	5,038	13,284	15,393	447,267	23	1,419,381	54,217	7,927	6,022	11,768	1,505,315	79	3,756,433	1913
1914	45	294,842	872,504	597,435	112,163	12,087	1,889,031	14	395,110	195,830	17,693	36,739	11,132	656,504	23	1,511,622	29,489	47,350	8,890	24,946	1,622,297	82	4,167,832	1914
1915	46	229,709	1,820,171	375,260	90,161	25,135	2,540,436	17	500,000	43,951	39,404	26,062	22,978	632,395	23	1,192,248	6,251	69,744	10,347	37,581	1,316,171	86	4,489,002	1915
1916	54	182,075	1,335,291	505,405	182,405	18,482	2,223,658	19	572,096	371,845	64,320	55,298	22,160	1,085,719	27	1,365,271	46,410	145,513	27,481	25,537	1,610,212	100	4,919,589	1916
1917	60	202,951	2,149,075	750,187	152,538	29,657	3,284,408	26	725,925	137,955	86,764	36,065	19,236	1,005,945	29	1,556,005	11,436	40,762	5,105	18,659	1,631,967	113	5,922,320	1917
1918	75	226,108	2,034,997	954,498	152,689	17,248	3,385,540	29	662,829	358,491	313,196	47,904	21,818	1,404,238	30	1,729,622	24,724	98,965	15,979	18,301	1,887,591	134	6,677,369	1918
1919	75	240,208	1,521,897	1,146,943	169,300	30,016	3,108,364	30	437,341	107,924	163,530	54,596	12,075	775,466	28	526,794	27,613	37,989	6,242	109,642	707,280	133	4,591,110	1919
1920	80	199,829	1,026,862	830,538	112,178	32,869	2,202,276	35	533,122	510,350	148,122	67,744	20,417	1,279,755	28	742,829	76,222	44,048	12,389	37,990	913,478	143	4,395,509	1920
1921	30	105,084	416,958	182,272	90,845	9,034	804,193	27	596,200	13,116	28,305	11,425	10,225	659,271	27	1,057,510	10,397	37,029	7,513	29,060	1,141,509	84	2,604,973	1921
1922	57	121,652	1,313,280	425,947	128,023	5,777	1,994,679	36	567,576	331,005	88,321	36,623	8,930	1,032,455	28	1,386,169	13,261	48,228	9,666	16,897	1,474,221	121	4,501,355	1922
1923	67	178,962	2,257,768	434,490	129,990	12,857	3,014,067	39	441,774	197,291	72,821	32,940	11,537	756,363	30	1,257,594	77	19,834	822	14,583	1,292,910	136	5,063,340	1923
1924	65	192,806	1,686,884	799,215	110,002	8,259	2,797,166	38	442,876	892,667	192,901	68,883	10,593	1,607,920	31	814,042	33,517	35,067	2,322	14,889	899,837	134	5,305,923	1924
1925	62	151,140	1,701,849	835,599	94,539	12,493	2,795,611	37	364,721	402,801	199,797	68,267	19,289	1,054,875	30	549,429	590	29,999	1,393	18,992	600,403	129	4,450,898	1925
1926	61	173,891	2,158,699	618,397	96,389	10,679	3,058,055	43	630,505	1,144,180	243,808	104,309	23,683	2,146,485	28	1,352,691	35,470	40,238	1,829	18,114	1,448,342	132	6,652,882	1926
1927	62	115,664	581,728	224,696	114,331	9,131	1,045,823	47	320,159	833,028	253,410	138,243	42,948	1,587,788	29	884,740	. . .	29,262	55	18,404	932,461	138	3,566,072	1927
1928	60	106,793	2,137,796	566,689	145,323	5,596	2,962,197	62	431,924	643,816	378,499	152,066	32,567	1,638,872	29	1,405,344	3,852	46,316	497	13,032	1,469,041	151	6,070,110	1928
1929	59	161,580	1,541,463	290,742	97,850	6,982	2,098,617	70	455,997	1,028,790	498,873	68,538	36,526	2,088,544	30	1,075,473	253	71,261	5,862	30,232	1,183,081	159	5,370,242	1929
1930	57	216,743	2,296,270	283,553	155,844	10,894	2,963,304	68	270,310	839,751	281,111	170,741	32,123	1,594,036	27	361,734	14,631	31,336	3,403	20,543	431,647	152	4,988,987	1930
1931	41	148,485	2,038,388	277,225	88,841	14,926	2,567,865	49	439,572	940,124	193,131	81,275	27,567	1,681,669	25	1,107,725	. . .	66,553	92	8,631	1,183,001	115	5,432,535	1931
1932	31	140,356	1,380,093	582,290	88,293	23,637	2,214,669	34	659,539	720,893	145,660	60,363	32,317	1,618,772	22	1,304,832	15,587	93,178	695	12,755	1,427,047	87	5,260,488	1932
1933	38	81,122	1,477,608	425,869	95,629	8,130	2,088,358	31	486,528	703,696	207,363	64,548	23,792	1,485,927	23	1,614,721	2,139	25,013	1,456	9,084	1,652,413	92	5,226,698	1933
1934	47	104,413	2,622,186	393,904	159,509	15,606	3,295,618	45	707,754	1,198,457	307,649	74,832	27,005	2,315,697	22	1,813,835	1,959	33,502	1,219	8,756	1,859,271	114	7,470,586	1934
1935	46	159,506	2,209,373	541,152	141,501	11,496	3,063,028	44	391,088	1,045,155	302,011	47,198	24,338	1,809,790	9	272,581	. . .	9,567	219	641	283,008	99	5,155,826	1935
1936	46	219,531	2,959,774	784,455	136,043	22,105	4,121,908	46	839,243	1,598,585	295,956	80,608	31,820	2,846,212	24	1,423,781	30,911	26,572	1,581	3,983	1,486,828	116	8,454,948	1936
1937	45	165,170	2,138,264	503,235	86,912	30,613	2,924,194	47	459,399	1,480,658	190,425	42,028	31,234	2,209,744	24	1,476,585	376	35,454	138	7,547	1,520,100	116	6,654,038	1937
1938	39	189,880	1,886,104	473,619	140,791	16,339	2,706,733	42	484,518	1,336,000	253,905	75,596	20,146	2,170,165	17	1,848,725	. . .	59,335	345	6,241	1,914,646	98	6,791,544	1938
1939	48	195,907	1,474,269	293,316	65,906	2,364	2,031,762	47	657,198	1,034,623	237,148	37,250	21,023	1,987,242	24	1,118,233	627	95,948	. . .	5,399	1,220,207	119	5,239,211	1939
1940	46	125,462	1,452,037	484,476	155,577	1,539	2,219,091	42	384,266	1,441,266	343,072	126,878	18,359	2,314,475	11	443,653	14,088	32,991	1,675	2,405	494,812	99	5,028,378	1940
1941	47	137,861	3,631,491	321,118	193,751	1,812	4,286,033	44	413,658	1,005,029	333,618	159,023	30,825	1,942,153	19	613,369	129	55,771	3,439	5,609	678,317	105	6,906,503	1941
1942	47	121,083	1,758,741	597,373	189,210	2,033	2,668,779	44	352,475	1,051,359	328,860	180,698	34,916	1,948,308	7	438,111	8,550	16,556	2,629	6,178	472,024	98	5,089,109	1942
1943	34	85,313	1,042,610	672,359	92,245	1,868	1,894,395	34	582,287	1,277,915	167,809	66,311	37,421	2,131,743	14	1,314,575	1,532	42,410	178	11,676	1,370,371	81	5,396,509	1943
1944	38	131,580	1,081,334	655,188	88,380	1,765	1,958,247	45	461,718	1,002,056	286,498	96,255	29,718	1,876,245	13	987,459	3,932	44,039	2,418	5,456	1,043,304	94	4,877,796	1944
1945	41	129,514	1,039,521	265,845	107,425	2,582	1,544,887	43	434,872	1,198,665	331,654	85,506	30,041	2,080,738	8	609,132	1,623	92,551	3,103	9,086	715,495	92	4,341,120	1945
1946	41	59,029	999,443	321,037	94,074	1,612	1,475,195	48	350,728	1,053,605	257,909	96,301	25,356	1,783,899	20	656,141	4,073	38,209	2,686	10,906	712,015	108	3,971,109	1946
1947	40	56,032	680,693	260,666	72,434	4,019	1,073,844	47	470,056	1,034,475	196,731	74,388	34,790	1,810,430	21	1,350,151	8,449	42,814	1,893	14,885	1,418,192	107	4,302,466	1947
1948	39	39,317	683,972	403,959	165,033	5,973	1,298,254	57	318,638	616,822	291,977	69,259	34,774	1,331,470	24	1,277,508	3,250	78,725	7,507	13,898	1,380,888	120	4,010,612	1948
1949	36	39,485	2,102,604	243,080	125,059	1,046	2,511,274	55	391,244	580,438	221,089	59,409	37,213	1,289,393	21	529,859	. . .	44,140	4,411	11,974	590,384	112	4,391,051	1949
1950	36	49,475	535,662	500,422	116,344	560	1,202,463	55	513,985	558,263	242,301	68,233	40,386	1,423,158	21	590,048	1,609	35,056	6,924	13,375	647,012	112	3,272,643	1950
1951	42	70,317	1,226,582	466,334	262,393	636	2,028,262	59	362,554	333,091	227,632	72,762	71,648	1,067,687	13	339,592	75	25,521	8,003	15,328	388,519	114	3,484,468	1951
1952	40	74,510	593,422	527,960	122,277	2,756	1,320,925	48	377,094	577,407	399,864	67,117	34,935	1,456,417	21	729,560	1,339	38,836	7,692	19,359	796,786	109	3,574,128	1952
1953	35	120,971	355,580	418,260	90,489	1,571	986,871	40	330,933	604,281	333,390	36,730	33,160	1,338,494	19	530,186	1,108	45,398	2,703	20,810	600,205	94	2,925,570	1953
1954	27	117,018	529,582	627,925	88,245	2,737	1,365,507	39	290,822	618,875	364,315	74,708	24,064	1,372,784	12	424,954	9,814	44,334	6,234	22,262	507,598	78	3,245,889	1954
Av.	38	75,567	874,706	403,549	124,577	2,349	1,480,748	49	384,092	717,592	286,686	70,441	36,636	1,495,447	18	703,713	3,134	48,558	5,116	15,188	775,709	105	3,751,905	Aver.

NOTE:– "Average" is for last ten years. Figures for last three years are from "Pacific Fisherman's" own compilation, and include, as far as possible, the pack from Freezership fish. Figures for previous years are from official U.S. data, and cover fish canned in Alaska only.


THE WIGGLE *
PILLAR ROCK
FANCY RED
FANCY SOCKEYE
SALMON
ALASKA PINK
PINK BEAUTY SALMON
Gold Standard
QUALITY
SALMON
RED WAVES SALMON
BELLANNA SALMON STEAKS READY TO COOK
BELLANNA FRESH FROZEN
BELLANNA HALIBUT STEAKS READY TO COOK
BELLANNA FRESH FROZEN
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BELLANNA FRESH FROZEN

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Canned Salmon and other Seafood Frozen Steaks and Fillets
Frozen and Mild Cured Fish

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SEATTLE, WASHINGTON

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PRODUCTS

*"Packed with the Wiggle in its Tail"**

Since 1868

WESTERN ALASKA CANNED SALMON PACKS

BRISTOL BAY AND YUKON (Cases)						YEAR	ALASKA PENINSULA, NORTH SIDE (Cases)						GRAND TOTAL
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL	
1,588,008	....	24,559	1,456	9,197	1,623,220	1933	26,665	....	1,490	....	284	28,439	1,651,659
1,726,769	1,959	32,222	1,219	8,580	1,770,759	1934	87,379	....	974	....	217	88,570	1,859,329
231,014	....	6,995	223	660	238,892	1935	34,920	4	2,862	....	175	37,961	276,853
1,388,776	30,773	25,045	1,571	4,092	1,450,257	1936	38,930	293	1,511	....	214	40,948	1,491,205
1,421,369	....	29,286	138	6,897	1,457,690	1937	55,315	1	6,170	....	234	61,720	1,519,410
1,772,885	....	54,551	345	5,446	1,833,227	1938	73,942	....	5,063	....	1,053	80,058	1,913,285
1,059,181	....	88,272	....	5,038	1,152,491	1939	56,310	2	6,478	....	465	63,255	1,215,746
402,899	16,081	30,624	1,445	3,504	454,553	1940	56,158	....	4,914	....	79	61,151	515,704
577,024	9	50,901	3,436	5,785	637,155	1941	36,366	95	4,953	....	179	41,593	678,748
438,053	8,564	16,749	2,638	7,001	473,005	1942	....	....	....	....	....	....	473,005
1,275,212	....	37,757	180	11,826	1,324,975	1943	39,330	54	3,680	....	56	43,120	1,368,095
954,694	3,911	31,838	2,408	5,420	998,271	1944	31,849	130	12,855	....	21	44,855	1,043,126
576,318	....	66,888	3,105	9,478	655,789	1945	32,342	127	25,007	....	22	57,498	723,287
628,240	4,073	36,436	2,663	10,768	682,180	1946	27,821	....	1,798	....	167	29,786	711,966
1,335,031	....	35,802	1,866	13,737	1,386,436	1947	25,675	....	6,047	8	71	31,801	1,418,237
1,212,233	3,148	64,167	4,140	13,576	1,297,264	1948	65,961	101	17,474	1,220	310	85,066	1,382,330
525,309	....	33,345	2,214	13,795	574,663	1949	10,612	....	2,954	2,349	179	16,094	590,757
577,158	1,607	16,588	2,840	13,217	611,410	1950	10,335	2	18,294	4,098	158	32,887	654,162
309,936	.....	15,744	4,366	15,086	345,132	1951	29,656	75	9,777	3,637	242	43,387	388,519
715,083	1,339	31,457	1,661	19,236	768,776	1952	14,477	.....	7,379	6,031	123	28,010	796,786
443,137	1	36,921	78	20,319	500,456	1953	17,391	1,175	9,157	3,301	396	31,420	531,876
307,469	4,441	31,694	1,630	8,453	352,687*	1954	12,352	5,103	7,308	3,387	510	28,660	393,091
662,991	1,461	36,904	2,456	11,735	718,578	Aver.	24,662	658	10,520	2,403	218	38,461	759,101

* Includes 10,744 cases of Kings, packed in the Yukon-Kuskokwim district. NOTE: – Figures are based on U.S. Fish & Wildlife Service final data, which DO NOT include fish caught in these areas and canned elsewhere, accordingly are somewhat different from those in other tables compiled independently by Pacific Fisherman. Figures for the latest year shown are preliminary. "Average" figures are for last ten years. Bristol Bay totals and Grand totals include fish packed in Yukon-Kuskokwim district.

minum interests for a survey studying the hydroelectric power potentialities of the Copper River. The project proposes a dam which would be impassable to salmon, and which could be expected to destroy the rich run of salmon to the Copper River, which produced $2,000,000 in 1954 alone.

This movement to dam the Copper is being strongly resisted by an industry committee headed by G. P. Halferty.

● 1954 *RICH IN CHUMS*—Exceptional abundance of Chums marked the salmon runs of 1954 almost everywhere within the range of this species.

This was true in the waters where the Japanese high seas gillnetters fished in the westerly portion of the North Pacific, to within a comparatively few miles of the Kamchatka coast.

This was true as well through most of the districts of Central Alaska.

It remained for Southeast Alaska and British Columbia to produce the exceptional catches of Chums.

Summer Chums dominated the Alaska pack, with the early season fishing in Icy and northern Chatham Straits verging on the phenomenal.

Not only was the production of early Chums excellent, but the character and quality of the fish themselves was also exceptional. Examiners reported later that some of the canned Chums carried oil comparable in volume with Copper River Sockeyes; and in general objective examiners did not hesitate to classify the 1954 Southeast Alaska summer Chums with the best they had ever judged.

Fall Chum season in Southeast Alaska proved generally disappointing. Fish prices shot up when fishing proved light; and most operators shut down after a day or so.

DATA ON BRISTOL BAY OPERATIONS

YEAR	Number of Canneries Operated	Canning Lines in Operation	Number of Other Operations	Total Boats Fishing Salmon	Total Set Nets Fishing	Total Fathoms of Gear Operated	Number of Salmon Caught	Canned Salmon Pack (full cases)	Number of Salmon Used for Other Purposes than Canning (or Shipped Uncanned)	YEAR
1930	25	114	4	868	113	168,975	4,405,378	405,892	62,334	1930
1935	8	15½	3	181	169	35,600	3,116,493	245,047	75,140	1935
1936	23	91	8	1,102	410	170,900	21,051,695	1,450,856	164,996	1936
1937	22	83	7	1,086	313	166,750	21,282,098	1,459,450	107,068	1937
1938	17	67	...	1,006	189	160,350	25,295,927	1,834,436	(None)	1938
1939	22	96	2	1,219	268	196,250	14,300,806	1,154,921	7,644	1939
1940	8	36	11	503	233	87,100	5,318,481	446,513	136,507	1940
1941	16	50	3	791	225	129,900	6,958,140	642,977	30,472	1941
1942	6	12	...	224	65	36,850	6,732,502	469,624	(None)	1942
1943	11	33	...	633	158	102,850	17,749,837	1,320,286	(None)	1943
1944	12	35	1	655	187	106,780	11,957,230	982,802	8,840	1944
1945	8	17	7	316	207	58,250	7,978,607	644,072	68,546	1945
1946	16	42	11	777	215	126,150	8,406,905	682,180	175,951	1946
1947	17	49	7	928	340	142,064	18,937,386	1,376,722	130,655	1947
1948	20	59	2	1,053	403	178,730	15,156,876	1,316,168	66,492	1948
1949	19	32	8	731	467	132,115	6,805,568	563,020	202,415	1949
1950	13	26	17	520	516	102,095	7,402,764	586,555	364,122	1950
1951	16	28½	20	717	504	119,120	4,615,607	342,075	672,740	1951
1952	21	46½	17	1,118	463	187,575	11,464,559	758,809	1,584,839	1952
1953	15	33	17	1,153	345	290,200	6,541,852	488,083	754,298	1953
1954	11	14	17	707	300	112,800	5,155,427	358,707	930,811	1954

NOTE: – Data in this table, compiled by U.S. Fish & Wildlife Service, are for Bristol Bay area only – NOT including the Yukon-Kuskokwim, Port Heiden or Herendeen Bay- Port Moller districts. Figures for boats and gear include those used in connection with salteries and freezers. Figures for the canned pack (preliminary compilation of Fish & Wildlife Service) are different from those in other tables in this issue. Of the fishing boats in 1954, 692 were power boats and 15 sailboats. The number of sailboats in 1953 was 58; in 1952, 223; in 1951, 631. Previously there were no power boats.

SINCE 1895

KELLEY-CLARKE CO.

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SELLING AGENTS

CANNED SALMON

KELLEY-CLARKE
ESTAB. 1895
COMPANY

NORTHWEST TUNA

DUNGENESS CRABMEAT

1954 - WESTERN ALASKA CANNED SALMON PACK - 1954

	COMPANY	CANNERY LOCATION	RED			PINK	CHUM	COHO	KING or CHINOOK			GRAND TOTAL (full cases)	
			1-lb. Talls	½-lb. Flats (8 doz.)	Total (full cases)	1-lb. Talls	1-lb. Talls	1-lb. Talls	1-lb. Talls	½-lb. Flats (8 doz.)	Total (full cases)		
	CANNED IN WESTERN ALASKA												
1	Alaska Packers Association	Nushagak	2,810	...	2,810	571	2,162	366	1,547	...	1,547	7,456	1
		Naknek (1)	39,251	...	39,251	36	3,253	2	314	...	314	42,856	
		Egegik	21,411	...	21,411	..	594	2	48	...	48	22,055	
		Ugashik (2)	30,822	1,799	32,621	...	1,444	4	77	...	77	34,146	
2	Alaska Airborne Fisheries	Dillingham	265	...	265	98	125	328	142	...	142	958	2
3	Bering Trading Co.	Alakanuk (Yukon)	...	...	...	...	...	...	...	6,575	6,575	6,575	3
4	Bingman Canning Co.	Dillingham	27	...	27	98	28	5	...	...	...	158	4
5	Bristol Bay Packing Co.	Dillingham (3)	1,405	...	1,405	285	1,081	183	776	...	776	3,730	5
		Pederson Point (4)	12,997	...	12,997	12	1,077	1	104	...	104	14,191	
6	Columbia River Packers Assn.	Nushagak (3)	1,405	...	1,405	285	1,081	183	774	...	774	3,728	6
		Naknek (5)	11,043	...	11,043	9	913	1	88	...	88	12,054	
7	Dillingham Canners	Dillingham (6)	...	...	...	...	...	...	...	543	543	543	7
8	Egegik Packing Co.	Egegik (7)	12,802	2,428	15,230	...	523	...	45	...	45	15,798	8
9	Global Fishing Co.	Naknek, Koggiung & Egegik	29,374	...	29,374	5	1,202	...	62	..	62	30,643	9
10	Intercoastal Packing Co.	Naknek	7,144	...	7,144	6	592	...	57	...	57	7,799	10
11	Libby, McNeill & Libby	Ekuk, Libbyville, Koggiung & Egegik (8)	45,028	...	45,028	586	4,480	367	1,769	...	1,769	52,230	11
12	Nakat Packing Corporation	Nakeen	12,213	...	12,213	11	1,012	1	98	...	98	13,335	12
13	Naknek Packing Company	So. Naknek	490	...	490	...	18	...	...	...	...	508	13
14	Northern Commercial Co.	Kwiguk (Yukon)	...	...	...	...	...	...	...	3,763	3,763	3,763	14
15	Pacific American Fisheries, Inc.	Dillingham, Naknek & Port Moller (9)	19,603	7,916	27,519	5,684	10,491	1,743	1,906	254	2,160	49,597	15
16	Queen Fisheries, Inc.	Dillingham, etc. (fl.)	...	11,776	11,776	2,128	6,721	1,038	...	672	672	22,335	16
17	St. Mary's Mission	Andreafski (Yukon)	...	...	...	...	...	...	...	172	172	172	17
18	Trans Pacific Fishing & Packing Company	Naknek (8)	2,056	...	2,056	...	170	...	16	...	16	2,242	18
19	Wards Cove Packing Co.	Red Salmon (Naknek)	14,178	...	14,178	...	1,175	...	114	...	114	15,467	19
20	L. G. Wingard Packing Co.	Ugashik	61,644	3,598	65,242	...	2,888	7	155	...	155	68,292	10
	TOTAL: WESTERN ALASKA CANNERIES		325,968	27,517	353,485	9,814	41,030	6,231	8,092	11,979	20,071	430,631	
	FREEZERSHIP PACK - WESTERN ALASKA SALMON CANNED IN OTHER DISTRICTS†												
1	Alaska Reefer Fisheries	"Alaska Reefer" (A & B)	(10)5,833	4,878	10,711	..	(10) 184	(10) 3	...	...	...	10,898	1
2	Arctic Maid Fisheries	"Arctic Maid" (B)	(11)8,721	4,942	13,663	...	(11) 438	...	(11) 32	12	44	14,145	2
		"Arctic Maid" (C)	3,270	...	3,270	...	293	...	8	...	8	3,571	
3	Malaspina Fisheries Co.	"Michelle Eve" (D)	933	...	933	..	32	...	549	...	549	1,514	3
4	Northern Reefer, Inc.	"Reefer II" (E)	(12)3,157	...	3,157	...	62	...	...	...	...	3,219	4
5	M/V "North Star" & Owners	"North Star" (H)	14,507	...	14,507	...	1,491	...	1	...	1	15,999	5
6	Pacific Queen Fisheries	"Pacific Queen" (H)	7,844	...	7,844	...	126	...	1,029	...	1,029	8,999	6
7	Pacific Reefer Fisheries	"Pacific Reefer" (E)	(13)9,739	65	9,804	...	235	...	(13)560	...	560	10,599	7
8	Reefer King Co.	"Reefer King" (F)	6,854	...	6,854	...	196	...	...	...	...	7,050	8
9	John S. York	"K-J" (G)	726	...	726	...	247	...	...	...	...	973	9
	TOTAL FREEZERSHIPS		61,584	9,885	71,469	...	3,304	3	2,179	12	2,191	76,967	
	GRAND TOTAL		387,552	37,402	424,954	9,814	44,334	6,234	10,271	11,991	22,262	507,598	

NOTES: – Many of the Bristol Bay packs were made through joint-operating or custom-canning arrangements in plants of other companies, most of which were as follows: (1) In Red Salmon & Libby Koggiung plants; (2) In Wingard plant; (3) In P. A. F. Dillingham plant; (4) In Libby Koggiung plant; (5) In Red Salmon plant; (6) In Queen Fisheries plant; (7) Naknek & Ugashik fish, in Red Salmon, Libby & Egegik Pkg. Co. plants; (8) A fishing operation; canned in plants of other companies. (9) Packs of Pacific American Fisheries, Inc., are tabulated in detail on another page of this issue.

† "FREEZERSHIP" pack does not include any fish canned in Western Alaska, but may include some fish caught in other parts of Alaska, which could not be segregated. This fish was canned in various plants in other districts, as follows (mostly custom-canned, but some sold and packed for canners' account): (A) American Packing Co., Anacortes. (B) Washington Fish & Oyster Co., Inc., Seattle. (C) Washington Fish & Oyster Co., Inc., Port Williams, Alaska. (D) Ouzinkie Packing Corp., Ouzinkie, Alaska. (E) Whiz Fish Products Co., LaConner, Wash. (F) Farwest Fishermen, Inc., Anacortes. (G) Crown Seafood Sales, Inc., Seattle. (H) Friday Harbor Canning Co., Friday Harbor. (10) Includes 980 cases Reds and 17 Chums in 4-lb. cans; 166 full cases Chums and 3 Cohoes in Halves. (11) Includes 3,036 cases Reds, 11 Chums and 2 Kings in 4-lb. cans, and 50 full cases Chum Halves. (12) Includes 756 cases in 4-lb. cans. (13) Includes 1,148 cases Reds and 560 Kings in 4-lb. cans.

RED SALMON PACKS ON BRISTOL BAY

YEAR	FIRST WEEK	SECOND WEEK	THIRD WEEK	FOURTH WEEK	TO CLOSE	TOTAL	YEAR
1940	(July 6) 221,687	(July 13) 139,853	(July 20) 33,848	(July 28) 4,606	...	399,994	1940
1941	(July 5) 204,929	(July 12) 206,049	(July 19) 127,573	(July 28) 31,316	...	569,867	1941
1942	(July 4) 149,175	(July 11) 142,145	(July 18) 93,174	(July 25) 44,323	7,357	436,174	1942
1943	(July 3) 284,635	(July 10) 449,076	(July 17) 272,074	(July 24) 242,122	27,174	1,275,081	1943
1944	(July 8) 431,421	(July 15) 347,149	(July 22) 116,514	(July 29) 18,045	...	944,129	1944
1945	(July 7) 236,413	(July 14) 233,332	(July 21) 84,681	(July 28) 15,405	...	569,831	1945
1946	(July 6) 241,948	(July 13) 241,405	(July 20) 88,520	(July 27) 30,831	...	602,704	1946
1947	(July 5) 641,401	(July 12) 376,575	(July 19) 242,854	(July 26) 70,975	3,226	1,335,031	1947
1948	(July 3) 482,252	(July 10) 464,488	(July 17) 169,806	(July 24) 112,111	7,680	1,236,226	1948
1949	(July 2) 260,145	(July 9) 142,637	(July 16) 86,865	(July 23) 30,675	3,581	523,903	1949
1950	(July 1) 93,006	(July 8) 370,340	(July 15) 89,070	(July 22) 10,832	411	563,659	1950
1951	(June 30) 59,185	(July 7) 127,553	(July 14) 73,692	(July 21) 59,143	...	319,573	1951
1952	(June 28) 92,073	(July 5) 228,069	(July 12) 256,014	(July 19) 119,729	21,618	712,503	1952
1953	(June 27) 63,478	(July 4) 191,378	(July 11) 127,590	(July 18) 51,229	9,382	443,057	1953
1954	(July 3) 116,428	(July 10) 97,034	(July 17) 75,381	(July 24) 17,230	1,396	307,469	1954

Compiled from U.S. Fish and Wildlife Service preliminary statistics, and include only salmon canned in that area. Figures in first column of table are for the total pack (in full cases of 48 lbs. net) to dates shown; those following show weekly packs.

Food for Thought

TODAY, canned salmon is one of the most economical and appetizing foods we eat. Homemakers have many tasty recipes which make a main salmon dish for as little as 15c a serving.

This does not mean that salmon appeals only to budget-conscious persons. Salmon is also the epicure's choice . . . one of the most delicious and delectable seafoods there is.

However, the Industry today is faced with a continuing problem . . . **there are many other competitive economical foods.** Salmon with its high content of essential food values, its deliciousness, its attractiveness, will continue as a prime favorite, but only **if we keep it within price reach.** It is therefore up to all of us in the fishing industry to **cut costs wherever possible.**

Pacific American Fisheries, Inc. pledges it full cooperation to this end.

PACIFIC AMERICAN FISHERIES, Inc.

SOUTH BELLINGHAM, WASHINGTON

Quality Always

Sales Subsidiary: DEMING & GOULD COMPANY, South Bellingham

CANNED SALMON PACK OF ALASKA FREEZERSHIPS

(Salmon Frozen in Alaska and Canned Elsewhere— Does not Include Salmon Canned Anywhere in Alaska)*

Year	From Western Alaska (cases)				From Central Alaska (cases)			From Southeast Alaska (cases)				Grand Total Full Cases (48 lbs)	Year
	Red	Chum	Other Species	Total	Pink	Other Species	Total	Pink	Chum	Other Species	Total		
1948**	4,031	535	2,000	(b) 6,566	...	...	...	...	...	...	..	6,566	1948**
1949**	10,976	(a) 750	2,536	14,262	...	...	...	...	...	...	...	14,262	1949**
1950	12,544	2,905	...	15,449	...	...	...	1,335	597	34	1,966	17,415	1950
1951	44,368	1,665	3,814	49,847	805	150	955	1,652	4,257	202	6,111	56,913	1951
1952	100,350	2,397	1,071	103,818	2,909	...	2,909	4	7,179	462	7,645	114,372	1952
1953	51,133	1,576	11	52,720	10,971	883	11,854	223	7,475	83	7,781	72,355	1953
1954	67,266	2,979	1,637	71,882	9,296	2,930	12,226	4,142	13,031	4,525	21,698	105,806	1954

**Data prior to 1950 cannot be accurately segregated. Some fish were frozen in Central Alaska and Southeastern Alaska in the years 1948 and 1949, but data available are not felt to be sufficiently accurate for inclusion in this table. Accordingly, reports for these next two years are concerned with Bristol Bay only.

*Some discrepancy arises from the fact that other tables, for current years, include some fish canned in other parts of Alaska than the areas where caught.

(a) Estimated.

(b) "Reefer King" pack only.

● *PINK RUN DISAPPOINTS*—Performance of the Southeast Alaska Pinks were extremely disappointing in 1954, especially in two particulars.

These were:

The flush early run of Pinks in the Anan Creek area did not hold-up, dwindling rapidly after a brave early start whose excellent fishing raised hopes high. However, the sober warning of one experienced observer—"Anan Creek is not Southeast Alaska"—quickly was proven true, and the yield of Pinks during the latter part of the season was disappointing indeed.

The "late run area" around Prince of Wales Island and lower Clarence Strait suffered severely. The run there had barely started when early closure was decided upon and fishing closed for the year. Operating results in this area were disastrous.

Fall operations during the short Chum salmon season in Southeast Alaska were limited—by the scant run of fish and the high level to which buyers bid-up the price in the opening days. Operators generally decided to accept the known loss attendant upon a quick shut-down with light pack, rather than to risk the uncertainties of bidding fancy prices for fall Chums on top of one of the biggest packs of this variety on record.

● *JAPANESE OPERATIONS*—Although the Japanese high-seas fishing operations were conducted far west of the Alaska mainland, American fishermen and operators hold the firm opinion that this ocean gillnetting has taken many fish which upon full maturity would have sought Alaska streams to spawn.

Details of the heavy catch of 1954 are given elsewhere in this issue. For the year 1955 the Japanese government has authorized a 635 increase in fishing effort over 1954, with 11 motherships in place of 7, mounting 23 canning lines as against 4 in the previous year.

Full data on the prospective operation of the Japanese this season is given in the table below.

These operations may be expected to begin about the middle of May.

Japanese Mothership Operations Authorized for 1955

Operating Firm	Vessel	Operated in 1954 or New	Gross Tons	Equipment Freezing Sets*	Equipment Canning Lines	Number Fishing Vessels
— Salmon Operations, Aleutian Area —						
Nichiro Gyogyo K.K.	*Kyoho Maru*	1954	7,080	..	3	39
Nichiro Gyogyo K.K.	*Meisei Maru*	1954	5,608	20	2	29
Nippon Suisan K.K.	*Miyajima Maru*	1954	8,964	40	2	39
Taiyo Gyogyo K.K.	*Koyo Maru*	1954	7,000	40	2	39
Hokkaido Gyogyo Kosha	*Terutama Maru*	1954	5,643	..	2	29
Taiyo Reito Bosen K.K.	*Azuma Maru*	1954	6,025	..	2	29
Hakodate Kokai Gyogyo and Taiyo Gyogyo K.K.	*Choko Maru*	New	5,598		2	29
Kyokuyo Hogei K.K.	*Baikaru Maru*	New	4,744	12	2	29
Nichiro Gyogyo K.K.	*Koei Maru*	New	6,803	..	3	24
Nippon Suisan K.K.	Under construction	New	6,000	32	2	24
Hokuku Suisan K.K. and Hoko Suisan K.K.	*Kaiko Maru*	New	2,940	10	1	24
Total Units		11	....	154	23	334†
— Salmon Operations, Okhotsk Area —						
Nichiro Gyogyo K.K.	*Nisshu Maru*	New	6,020	..	3	34‡
Hokkaido Gyogyo K.K.	*Gon-yo Mary*	New	3,846	9	..	24†
— Crab Operations, Okhotsk Area —						
Nippon Suisan K.K. and Nichiro Gyogyo K.K.	*Yoko Maru*	....	4,752	..	2	§
Hokuyo Suisan K.K. and Taiyo Gyogyo K.K.	*Shiranesan Maru*	....	5,736	..	2	§

*Capacity of the "set" unit of refrigeration not indicated.

‡Includes 8 "investigation ships" in the combined operations.

†Includes 50 "investigation ships."

§Not determined at presstime.

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SALMON
CENTRAL ALASKA

• *RELATIVELY FAVORABLE* salmon operating conditions prevailed in Central Alaska, taking the district as a whole, during the 1954 season.

Some areas showed excellent results—notably Kodiak, Cook Inlet and Copper River. The peninsula was somewhat below average and Chignik also, but the latter district was particularly disappointing because of the sharp decline from the excellent pack of the year before.

Prince William Sound of course was virtually closed in the first of a two-year "shock treatment" designed to rehabilitate the Pink salmon population of that area.

Reds were far under average in all areas of Central Alaska save Copper River, where the pack of this variety was the second-best on record.

CENTRAL ALASKA CANNED SALMON PACKS

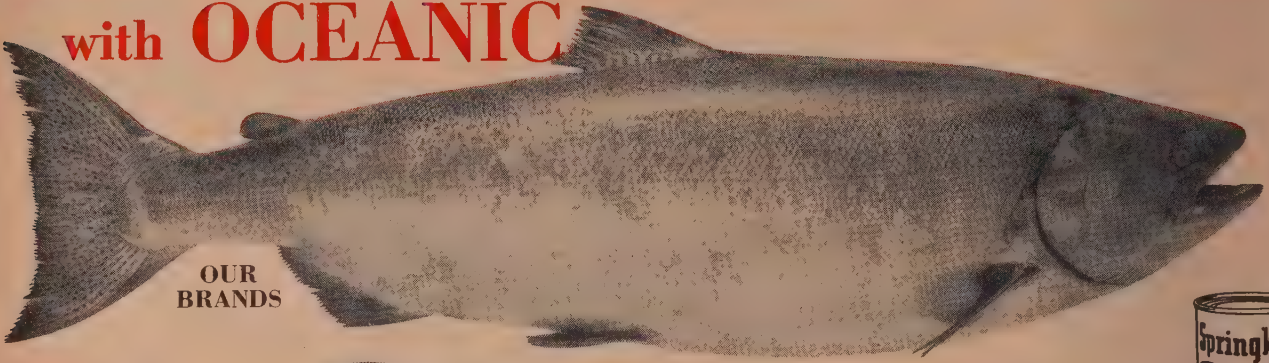
ALASKA PENINSULA, SOUTH SIDE (Cases)						YEAR	CHIGNIK (Cases)					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
152,073	156,556	109,608	17,082	3,130	438,449	1933	55,541	16,369	11,188	4,051	249	87,398
173,136	312,762	182,666	25,418	4,639	698,621	1934	122,326	28,406	13,417	2,476	157	166,782
74,412	266,144	175,340	11,297	3,741	530,934	1935	60,808	19,504	17,027	1,611	127	99,077
276,548	512,740	199,222	27,226	3,678	1,019,414	1936	100,499	35,917	10,278	4,643	108	151,455
92,639	451,139	117,147	6,836	2,262	670,023	1937	52,727	57,620	10,193	1,626	154	122,320
57,439	367,827	128,574	21,650	1,655	577,145	1938	35,117	12,071	6,792	2,254	148	56,412
149,046	292,203	120,901	9,835	4,483	576,468	1939	142,770	13,744	6,874	728	377	164,493
88,690	356,969	209,749	18,063	3,330	676,801	1940	27,772	4,083	2,349	20	...	34,224
97,695	233,438	163,058	17,298	3,008	514,497	1941	59,373	16,373	15,345	2,322	316	93,729
56,886	291,392	117,532	10,437	843	477,090	1942	56,977	22,962	11,853	1,093	378	93,263
177,000	167,024	70,727	6,657	1,934	423,342	1943	110,086	4,265	4,638	1,924	290	121,203
40,585	123,988	82,560	21,108	819	269,060	1944	47,448	29,283	6,221	1,223	442	84,617
58,984	140,319	73,752	9,923	1,765	284,743	1945	18,666	18,381	11,582	638	222	49,489
50,808	89,164	88,544	12,122	688	241,326	1946	70,817	39,544	22,049	695	305	133,410
83,407	115,916	81,921	4,343	456	286,043	1947	146,788	23,640	5,417	512	111	176,468
23,916	66,743	82,494	2,689	151	175,993	1948	33,574	47,393	31,348	79	79	112,473
47,751	70,866	39,863	1,526	723	160,729	1949	54,146	3,976	11,210	512	129	69,973
135,595	88,452	49,703	5,315	803	279,868	1950	31,644	28,737	8,885	1,135	127	70,528
15,344	116,730	43,007	3,440	183	178,704	1951	25,857	18,576	16,135	719	231	61,518
64,685	38,317	110,249	4,106	182	217,539	1952	14,852	23,113	49,359	94	20	87,438
142,477	131,958	138,117	3,364	624	416,540	1953	37,758	32,186	46,738	88	127	116,897
45,719	64,847	112,598	2,155	561	225,880	1954	11,078	29,000	38,046	93	45	78,262
66,869	92,331	82,025	4,898	614	246,737	Aver.	44,518	26,454	24,077	457	140	95,646

KODIAK AREA (Cases)						YEAR	COOK INLET (Cases)					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
108,787	331,000	50,134	8,222	283	498,426	1933	98,510	5,591	5,277	16,419	14,710	140,867
151,924	420,684	73,588	9,151	344	655,691	1934	154,697	48,186	9,141	25,665	19,148	256,837
119,720	534,083	42,130	6,753	350	703,036	1935	104,694	22,506	14,400	14,977	18,863	175,440
202,983	394,025	39,248	17,548	620	654,424	1936	188,063	51,350	23,780	31,345	19,723	314,261
120,674	769,055	29,353	14,179	357	933,618	1937	109,471	21,528	12,976	14,005	24,674	182,654
142,112	450,098	69,792	14,716	316	677,034	1938	170,725	54,894	16,260	32,745	16,060	290,684
115,604	603,492	62,185	9,442	651	791,374	1939	183,304	15,570	20,726	13,076	16,554	249,230
93,751	443,154	60,332	14,246	313	611,796	1940	129,952	122,437	26,695	46,015	15,995	341,093
121,725	508,306	57,368	22,854	638	710,891	1941	90,885	38,235	24,706	31,105	27,448	212,379
83,340	313,711	76,563	10,751	363	484,728	1942	98,418	55,722	40,110	61,734	28,617	284,604
129,105	555,209	41,766	5,682	308	730,070	1943	102,746	60,540	26,292	23,447	30,963	243,988
142,212	335,683	56,035	5,623	183	539,736	1944	156,799	96,694	23,311	25,442	25,668	327,914
154,513	491,346	64,957	5,640	521	716,977	1945	118,849	54,370	28,302	28,718	22,420	252,659
65,810	541,334	37,817	3,982	34	648,977	1946	105,065	60,101	31,593	35,835	17,191	249,785
85,805	494,211	23,133	6,752	27	609,928	1947	106,180	30,073	21,183	34,430	30,718	222,584
98,030	303,564	93,918	4,046	189	499,747	1948	133,828	75,678	38,086	29,462	32,688	309,742
69,861	208,537	63,632	5,055	803	347,888	1949	165,588	19,139	21,844	26,783	31,234	264,588
64,463	266,694	73,846	5,786	408	411,197	1950	207,032	62,528	52,572	63,565	34,247	419,944
81,117	126,238	89,926	8,842	5,996	312,119	1951	171,030	24,296	21,884	27,707	59,973	304,890
89,888	281,405	141,730	4,678	1,963	519,664	1952	94,951	115,666	30,095	20,252	22,931	283,895
47,451	273,344	68,239	5,143	328	394,505	1953	101,206	27,208	41,457	18,880	28,952	217,703
34,643	382,779	141,682	6,597	682	566,383	1954	105,571	133,864	85,083	33,318	23,995	381,831
79,158	336,945	79,888	5,652	1,096	502,739	Aver.	130,930	60,292	37,210	31,895	30,435	290,762

PRINCE WILLIAM SOUND and RESURRECTION BAY (cases)						YEAR	COPPER and BERING RIVER AREA (cases)				REGIONAL GRAND TOTAL
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Cohoes	Kings	TOTAL	
12,786	194,646	31,672	8,317	723	248,144	1933	56,787	11,232	4,691	72,710	1,485,994
14,549	389,676	34,421	13,661	715	453,022	1934	92,838	158	3,469	96,465	2,327,418
16,096	201,756	53,226	3,447	621	275,146	1935	8,453	9,385	760	18,598	1,802,231
13,440	609,537	23,660	5,245	431	652,313	1936	75,296	15	2,513	77,824	2,869,691
8,492	182,762	21,941	6,651	329	220,175	1937	78,238	5,463	3,868	87,569	2,216,359
10,615	461,114	31,218	6,846	251	510,044	1938	65,777	155	2,514	68,446	2,179,765
12,390	129,491	28,756	3,858	257	174,752	1939	52,285	1,116	2,192	55,593	2,011,910
7,065	521,745	54,001	10,257	182	593,250	1940	37,847	30,521	1,337	69,705	2,326,869
7,083	217,007	73,776	6,430	100	304,396	1941	36,868	83,142	3,067	123,077	1,958,969
13,289	366,965	82,633	13,703	449	477,039	1942	47,849	84,322	5,262	137,433	1,954,157
9,285	511,818	30,620	8,237	2,595	562,555	1943	57,418	21,837	4,893	84,148	2,165,306
12,741	416,848	118,159	7,902	158	555,808	1944	62,780	34,949	2,517	100,246	1,877,381
17,382	493,482	154,080	4,941	102	669,987	1945	70,744	41,103	6,037	117,884	2,091,739
10,432	317,329	76,003	16,037	408	420,209	1946	45,645	25,821	7,145	78,611	1,772,318
17,955	380,017	65,018	7,270	180	470,440	1947	30,717	22,231	3,596	56,544	1,822,007
19,115	123,411	47,008	5,048	74	194,656	1948	13,536	28,405	1,237	43,180	1,335,791
8,423	275,830	83,195	13,016	167	380,631	1949	46,404	15,986	1,964	64,354	1,288,163
7,179	111,838	57,464	12,441	88	189,010	1950	70,592	18,997	4,517	94,106	1,464,654
66,871	47,249	56,680	30,555	5,195	206,550	1951	39,963	24,513	3,737	68,213	1,131,994
107,471	118,905	68,430	37,987	9,231	342,024	1952	103,533	1,605	9,337	114,475	1,565,035
5,355	124,122	34,929	4,454	37	168,897	1953	51,136	3,884	3,163	58,183	1,372,725
1,688	1,240	1,670	603	.....	5,201	1954	102,850	33,035	4,336	140,221	1,397,778
26,187	199,342	64,448	13,235	1,548	304,760	Aver.	57,512	21,558	4,507	83,577	1,524,221

NOTE:– Figures are based on U.S. Fish & Wildlife Service final data, which DO NOT include fish caught in these areas and canned elsewhere, and accordingly are somewhat different from those in other tables compiled independently by Pacific Fisherman. Figures for the latest year shown are preliminary. "Average" figures are for the last ten years.

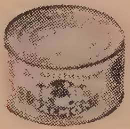
The Five Salmon Go to Market with OCEANIC



OUR BRANDS

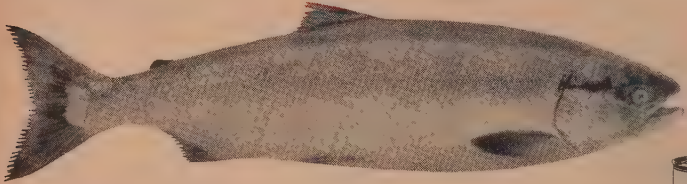
CHINOOK

Gill Netters Best
Co-Operators Best
Springkist



Springki
Red Chinook
SALMON

Called "King" in many areas, the big salmon above well deserves the name. This salmon is highly favored, although he furnishes only a limited part of the canned salmon pack. Weight averages about 25 pounds, but Chinooks above 100 pounds have been taken.



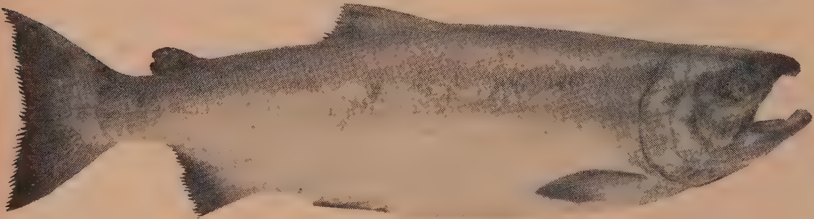
RED

Red-E-Lunch **Coatarms**
Hummer

"Sockeye" in some areas, this trim salmon averages 7 pounds weight. Yielding the Red salmon pack, it is one of the world's most important fishes.

COATARMS
SALMON

ALASKA
RED-E-LUNCH
RED
SALMON

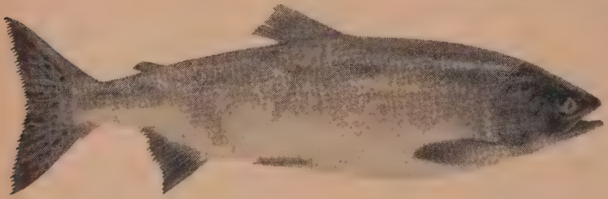


SILVER

Redman
Salad

Commonly known as "Coho" and "Medium Red" as well as "Silver," this species averages about 8 pounds in weight. The flesh has a strong red color.

REDMAN
SALMON

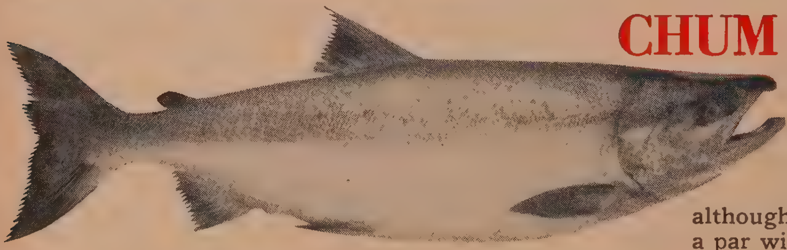


PINK

Oceanic **Seafed**
Down South **Seafarer**

Although the smallest of the five salmon, the Pink makes the largest contribution of all to the canned salmon pack. The species' life cycle is two years.

PINK
OCEANIC
Pink
SALMON



CHUM

Tomah **Ben Hur** **Tennis**
Overland **Western Star**

The pale color of its flesh keeps the Chum salmon cheap, as consumer preference for color in canned salmon has powerful leverage. Although pale, although cheap, this salmon ranks on a par with the others in nutritive value.

TOMAH
ALASKA
SALMON

OCEANIC SALES COMPANY

33rd FLOOR SMITH TOWER SEATTLE 4, WASHINGTON

Exclusive Sales Agents For:

UNION FISHERMEN'S CO-OPERATIVE PACKING COMPANY'S

Complete Line of Columbia River Fisheries Products

1954-CENTRAL ALASKA CANNED SALMON PACK-1954

	COMPANY	CANNERY LOCATION	RED OR SOCKEYE			PINK			CHUM			COHO			KING OR CHINOOK			GRAND TOTAL (full cases)	
			1 & 4 lb. Talls & Flats	½-lb. Flats (8 doz.)	TOTAL	1 & 4 lb. Talls & Flats	½-lb. Flats (8 doz.)	TOTAL	1-lb. Talls	½-lb. Flats (8 doz.)	TOTAL	1 & 4 lb. Talls & Flats	½-lb. Flats (8 doz.)	TOTAL	1 & 4 lb. Talls & Flats	½-lb. Flats (8 doz.)	TOTAL		
	CANNED IN CENTRAL ALASKA																		
1	Alaska Pacific Salmon Co.	Sand Point (1)	61	2,608	2,669	9,974	...	9,974	8,204	...	8,204	748	...	748	... 2	...	2	21,597	1
2	Alaska Packers Association	Chignik	3,209	3,286	6,495	10,280	972	11,252	20,029	...	20,029	15	...	15	30	...	30	37,821	2
		Alitak	807	...	807	13,002	...	13,002	1,121	...	1,121	64	...	64	...	...	...	14,994	
		Karluk	2,801	1,873	4,674	52,937	3,199	56,136	13,967	...	13,967	172	62	234	58	...	58	75,069	
3	Alaska Shellfish, Inc.	Seldovia	...	3,081	3,081	...	1,559	1,559	...	5,027	5,027	...	232	232	...	863	863	10,762	3
4	Alaska Year Round Canneries	Seldovia	7,979	769	8,748	14,094	1,062	15,156	12,035	4	12,039	4,117	870	4,987	833	3,108	3,941	44,871	4
5	Berman Packing Company	Ninilchik	...	3,645	3,645	...	4,078	4,078	...	1,331	1,331	...	2,452	2,452	...	344	344	11,850	5
6	Big Point Seafood Co.	Cordova	(22) 100	...	100	...	...	...	...	...	...	...	...	...	(22) 20	...	20	120	6
7	M. G. Brown	Copper & Bering Rivers and Port Dick (fl.) (13)	3,723	...	3,723	649	...	649	2,105	...	2,105	2,313	...	2,313	99	...	99	8,889	7
8	Chignik Fisheries Co.	Chignik	3,951	...	3,951	13,048	...	13,048	20,838	...	20,838	55	...	55	13	...	13	37,905	8
9	Cook Inlet Packing Co.	Seldovia (2)	(20) 1,855	...	1,855	8,422	...	8,422	20	...	20	712	...	712	(20) 598	...	598	11,607	9
10	Copper Delta Seafoods Co.	Cordova*	...	628	628	...	...	...	...	...	...	...	...	...	...	50	50	678	10
11	Copper River Co-Op Co. Inc.	Copper River Flats, etc.	...	6,401	6,401	...	746	746	...	696	696	...	56	56	...	406	406	8,305	11
12	Cordova Fish & Cold Stge. Co.	Cordova	...	(25) 4,869	4,869	...	...	...	...	...	...	...	30	30	...	...	...	4,899	12
13	Crystal Falls Fish Co.	Crystal Falls (Cordova)	1,378	...	1,378	...	...	...	...	...	...	1,031	55	1,086	56	...	56	2,520	13
14	Emard Packing Co.	Anchorage	6,715	(26) 672	7,387	11,335	...	11,335	6,328	...	6,328	9,483	(26) 743	10,226	258	(26) 3,114	3,372	38,648	14
15	Fidalgo Island Packing Co.	Port Graham	10,927	...	10,927	18,475	...	18,475	11,159	...	11,159	1,425	...	1,425	1,912	...	1,912	43,898	15
16	Halferty Canneries Inc.	Kodiak	256	...	256	(23) 13,330	...	13,330	7,870	...	7,870	141	...	141	...	...	...	21,597	16
		Cordova & Orca (3)	6,263	19,420	25,683	...	...	...	...	...	...	(22) 7,395	125	7,520	...	978	978	34,181	
17	Emil Harris Packing Co.	Cohoe (Cook Inlet)	...	...	...	...	...	...	...	...	...	...	8	8	...	7	7	15	17
18	P. E. Harris Co., Inc.	False Pass	9,539	...	9,539	17,414	...	17,414	31,816	...	31,816	952	...	952	23	...	23	59,744	18
19	J. H. Hoekzema Canning Co.	Kasilof	...	30	30	...	...	...	...	...	...	...	52	52	...	40	40	122	19
20	Island Seafoods Co.	Jachar Bay (fl.)	...	33	33	...	2,491	2,491	...	2,697	2,697	...	3	3	...	...	...	5,224	20
21	Kadiak Fisheries Co.	Port Bailey	5,639	...	5,639	84,930	...	84,930	29,251	...	29,251	852	...	852	26	...	26	120,698	21
22	Kenai Packers	Keni	13,207	2,393	15,600	9,710	2,332	12,042	5,164	7	5,171	2,866	374	3,240	320	2,235	2,555	38,608	22
23	Libby, McNeill & Libby	Moser Bay (4) & Kenai	12,572	9,499	22,071	65,518	483	66,001	13,514	...	13,514	3,858	...	3,858	2,335	...	2,335	107,779	23
24	Malaspina Fisheries Inc.	Ouzinkie (5)	5	...	5	209	...	209	284	...	284	1	...	1	...	...	...	499	24
25	Munson Packing Co.	Kenai	...	...	...	...	...	...	...	...	...	...	(27) 20	20	...	...	...	20	25
26 26	New England Fish Company	Orca, Kenai, Snug Harbor & Port Bailey (6)	10,919	19,558	30,477	996	...	996	5,009	...	5,009	(24) 7,574	131	7,705	3	961	964	45,151 45,151	26 26
27	Ouzinkie Packing Corporation	Ouzinkie	966	...	966	16,881	...	16,881	10,659	...	10,659	215	...	215	8	...	8	(25) 28,729	27
28	Pacific American Fisheries, Inc.	King Cove, Chignik, Larsen Bay, Alitak & Kenai (7)	13,689	12,801	26,490	93,861	4,995	98,856	57,485	2,522	60,007	2,345	...	2,345	629	...	629	188,327	28
29	Parks Canneries (8)	Uyak	5,472	...	5,472	13,319	...	13,319	25,349	...	25,349	601	...	601	...	...	...	44,741	29
30	Peninsula Packers	False Pass (9)	10,249	...	10,249	12,100	...	12,100	10,203	...	10,203	...	...	...	60	...	60	32,612	30
31	Port Chatham Packing Co.	Portlock	...	4,078	4,078	...	1,364	1,364	...	3,861	3,861	...	248	248	...	184	184	9,735	31
32	Resurrection Bay Co.	Seward	995	...	995	(28) 621	...	621	976	...	976	648	...	648	...	...	...	3,060	32
33	San Juan Fishing & Packing Co	Uganik Bay	1,463	213	1,676	37,536	9	37,545	9,576	151	9,727	695	...	695	...	10	10	49,653	33
34	Seldovia Bay Packing Co.	Seldovia & Cordova (10)	15,813	3,791	19,604	13,686	28	13,714	22,620	1,238	23,858	3,513	1	3,514	200	2,132	2,332	63,022	34
35	Shelter Cove Packing Co.	Fleming Spit (Cordova)	...	36	36	...	...	...	...	...	...	...	...	...	...	74	74	110	35
36	Snug Harbor Packing Co.	Snug Harbor	(21) 5,251	...	5,251	(23) 8,970	...	8,970	2,101	...	2,101	(21) 1,289	...	1,289	(21) 362	...	362	17,973	36
37	Tapley Packing Co.	Cordova	...	110	110	...	...	...	...	...	...	...	...	...	...	8	8	118	37
38	Tidewater Packing Co.	Anchorage*	...	...	...	...	...	...	...	...	...	...	(27) 125	125	...	(27) 30	30	155	38
39	Uganik Fisheries, Inc.	Uganik Bay (11)	1,246	...	1,246	26,690	...	26,690	7,217	...	7,217	565	...	565	...	...	...	35,718	39
40	Mrs. C. A. Vanborg	Cordova	...	(27) 3	3	...	...	...	...	...	...	...	...	...	...	(27) 56	56	59	40
41	Washington Fish & Oyster Co.	Port Williams	509	...	509	16,977	...	16,977	8,967	...	8,967	1,093	...	1,093	...	...	...	27,546	41
42	West Point Canning Co.	Uganik Bay	...	607	607	...	1,297	1,297	...	232	232	...	...	...	...	...	...	2,136	42
43	Western Fishermen, Inc (12)	Cordova	3,197	29,425	32,622	...	...	...	...	...	...	4,934	9,618	14,552	...	1,619	1,619	48,793	43
	TOTAL, CENTRAL ALASKA CANNERIES		160,756	129,829	290,585	584,964	24,615	609,579	343,867	17,766	361,633	59,492	15,205	74,697	7,845	16,219	24,064	1,360,558	
	FREEZERSHIP PACK — CENTRAL ALASKA SALMON CANNED IN OTHER DISTRICTS**																		
1	Alaska Reefer Fisheries	"Alaska Reefer" (A & B)	72	...	72	163	1,923	2,086	95	...	95	...	...	...	...	...	...	2,253	1
2	Arctic Maid Fisheries	"Arctic Maid" (B)	...	...	...	...	189	189	1,700	...	1,700	4	...	4	...	...	...	1,893	2
3	H. Guffey	"Chirikof" (C)	10	...	10	774	...	774	...	...	...	7	...	7	...	...	...	791	3
4	M/V "North Star" & Owners	"North Star" (D)	...	...	...	...	4,521	4,521	...	...	...	...	...	...	...	...	...	4,521	4
5	Pacific Queen Fisheries	"Pacific Queen" (D)	...	...	...	115	...	115	...	...	...	...	...	...	...	...	...	115	5
6	Trans Pacific Fish. & Pkg. Co	"Toni B" (E)	(30) 150	5	155	...	1,355	1,355	(30) 883	4	887	...	...	...	...	...	...	2,397	6
7	John S. York	"K-J" (C)	...	...	...	256	...	256	...	...	...	...	...	...	...	...	...	256	7
	TOTAL FREEZERSHIPS		232	5	237	1,308	7,988	9,296	2,678	4	2,682	11	...	11	...	...	...	12,226	
	GRAND TOTAL		160,988	129,834	290,822	586,272	32,603	618,875	346,545	17,770	364,315	59,503	15,205	74,708	7,845	16,219	24,064	1,372,784	

NOTES – (1) Canned in P. A. F. King Cove plant. (2) Canned in Snug Harbor Pkg. Co. plant. (3) Shares from joint operations in New England and Cordova Fish & C. S. plants. (4) Canned in P. A. F. Alitak plant. (5) Central Alaska Freezership fish, custom-canned at Ouzinkie. (6) Includes shares from joint operations in Cordova Fish & C. S., Libby Kenai, and Kadiak Fisheries plants. (7) Packs of Pacific American Fisheries, Inc., are tabulated in detail on another page of this issue. (8) Consolidated operation of Parks Canning Co. & Ivanof Bay Canning Co. (9) Canned by joint operation in P. E. Harris plant. (10) Canned in San Juan plant. (12) New company, operating in Western Fisheries Co. plant. (13) Floater "Kayak", leased from Kayak Pkg. Co. Pound Flats are included with Talls as follows: (20) 967 cases Reds, 451 Kings; (21) 1,217 cases Reds, 163 Pinks, 63 Cohoes, 173 Ki

Four-pound Flats are included with 1-lb. Talls as follows: (22) All 4-lb.; (23) 5,204 cases; (24) 7,426 cases; (30) 147 cases Reds and 9 Chums. (25) Includes some custom-canned for others, not otherwise tabultated. (26) Packed in 6¾-oz. cans. (27) Smoked salmon. (28) Includes a few Pinks canned for Alaska Products, Co. *New Cannery.

**"FREEZERSHIP" pack does not include any fish canned in Central Alaska, but may include some fish caught in other parts of Alaska, which could not be segregated. This fish was canned in various Puget Sound plants, as follows (mostly custom-canned, but some sold and packed for canners' account): (A) American Packing Co., Anacortes. (B) Washington Fish & Oyster Co., Inc., Seattle. (C) Crown Seafood Sales, Inc., Seattle (fish from Chirikof purchased). (D) Friday Harbor Canning Co., Friday Harbor. (E) Dressel-Collins Fish Co. Seattle

BRISTOL BAY SALMON PACKS

(Based on preliminary data, not identical with final figures shown in some other tabulations.)

YEAR	NUSHAGAK	NAKNEK-KVICHAK	EGEGIK	UGASHIK	TOTAL	YEAR
1940	166,208	26,786	16,435	....	450,229	1940
1941	172,835	417,564	29,894	3,555	623,848	1941
1942	196,671	222,281	....	48,239	467,191	1942
1943	282,100	958,144	....	78,110	1,318,354	1943
1944	270,034	588,414	44,113	80,241	982,802	1944
1945	222,738	351,638	....	67,577	641,953	1945
1946	151,216	424,904	22,671	48,534	647,325	1946
1947	220,181	1,015,246	73,422	63,408	1,372,369	1947
1948	262,581	829,407	96,488	127,692	1,316,168	1948
1949	79,173	346,287	84,294	53,266	563,020	1949
1950	115,019	345,587	59,992	65,957	586,555	1950
1951	31,143	239,289	43,590	25,090	339,112	1951
1952	81,720	600,009	52,277	21,594	755,600	1952
1953	36,544	342,266	63,818	45,455	488,083	1953
1954	51,446	149,730	59,872	92,639	353,687	1954

NOTE: – The above table covers fish canned in the district; and does not include fish frozen on Bristol Bay and subsequently canned elsewhere.

Pack of Alaska Canned Salmon by Species and Values

Salmon fishing in Alaska commenced in 1878, but no segregation of the packs by species is available prior to 1896, while the valuations were not recorded prior to 1905. Earlier total packs, starting with 8,159 cases in 1878, ranged from 6,539 cases in 1880 to a peak of 801,400 in 1891, the output in 1895 being 626,530 cases. The average from the beginning through 1895 was 291,973 cases.

The "Average" figures at bottom of table are for the last ten years. Values are based on opening prices, or on prices at which the bulk of the packs were sold.

YEAR	RED, SOCKEYE		PINK		CHUM		COHO		KING		TOTAL		YEAR
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1896	806,010	....	111,986	....	452	....	37,017	....	11,242	....	966,707	....	1896
1897	688,581	....	157,711	....	1,396	....	43,557	....	17,833	....	909,070	....	1897
1898	782,941	....	109,399	....	5,184	....	54,711	....	12,862	....	965,997	....	1898
1899	864,254	....	149,159	....	1,931	....	39,402	....	23,400	....	1,078,146	....	1899
1900	1,197,406	....	232,022	....	30,012	....	50,984	....	37,715	....	1,548,139	....	1900
1901	1,319,335	....	541,427	....	47,464	....	65,509	....	43,069	....	2,016,804	....	1901
1902	1,685,546	....	549,602	....	159,849	....	82,723	....	59,104	....	2,536,824	....	1902
1903	1,687,244	....	355,799	....	35,052	....	120,506	....	47,609	....	2,246,210	....	1903
1904	1,505,548	....	299,333	....	21,178	....	85,741	....	41,956	....	1,953,756	....	1904
1905	1,574,428	$5,335,547	168,579	$498,194	41,972	$113,056	67,394	$215,875	42,125	$141,999	1,894,516	$6,304,671	1905
1906	1,475,961	5,620,875	348,875	1,046,951	254,812	730,235	109,141	382,109	30,834	116,222	2,219,044	7,896,392	1906
1907	1,295,113	5,915,227	561,973	1,799,290	184,173	547,757	85,190	337,384	43,424	181,718	2,169,873	8,781,366	1907
1908	1,651,770	7,524,251	644,133	1,733,379	218,513	554,197	68,827	274,089	23,730	99,867	2,606,973	10,185,783	1908
1909	1,705,302	7,610,550	464,873	1,114,839	120,712	274,110	56,556	231,029	48,034	207,624	2,305,477	9,438,151	1909
1910	1,450,267	7,774,390	554,322	1,764,055	254,218	773,409	114,026	559,666	40,221	214,802	2,413,054	11,086,322	1910
1911	1,320,705	8,552,512	1,021,356	4,493,966	303,823	1,215,692	120,704	752,283	45,378	363,024	2,820,966	16,198,833	1911
1912	1,904,258	10,776,987	1,303,365	3,410,928	638,528	1,600,444	170,384	791,023	52,594	310,847	4,060,129	16,890,229	1912
1913	1,964,379	9,136,616	1,402,916	3,687,446	267,654	623,424	77,377	271,078	34,167	140,914	3,746,914	13,859,478	1913
1914	2,201,574	12,482,110	997,823	3,600,075	662,478	2,260,614	157,792	735,219	48,165	281,924	4,067,832	19,719,942	1914
1915	1,922,296	11,907,202	1,870,373	5,619,436	484,408	1,356,469	126,570	588,903	85,694	458,000	4,489,341	19,930,010	1915
1916	2,119,442	13,147,994	1,753,546	6,446,168	715,238	2,434,627	265,184	1,430,143	66,179	364,496	4,919,589	23,823,428	1916
1917	2,484,881	29,058,778	2,298,466	15,120,419	877,713	5,375,713	193,708	1,634,600	67,552	660,868	5,922,320	51,850,017	1917
1918	2,618,559	25,313,837	2,418,212	16,142,604	1,366,859	8,756,598	216,572	2,068,784	57,367	596,000	6,677,569	52,877,823	1918
1919	1,265,543	17,143,017	1,657,434	14,982,542	1,348,462	9,450,772	230,229	2,809,310	90,533	1,131,662	4,592,201	45,552,714	1919
1920	1,475,780	19,851,816	1,613,434	9,751,845	1,022,708	4,712,575	192,311	1,579,963	91,276	1,154,013	4,395,509	37,050,212	1920
1921	1,758,794	16,539,177	440,471	1,938,263	247,606	990,424	109,783	649,480	48,319	352,699	2,604,699	20,470,043	1921
1922	2,075,397	19,719,158	1,657,556	7,709,011	562,496	2,369,396	174,312	949,312	31,604	258,799	4,501,428	31,006,027	1922
1923	1,878,330	17,727,572	2,455,136	12,337,580	527,145	2,542,759	163,752	957,439	38,977	344,078	5,063,340	33,909,428	1923
1924	1,449,724	14,840,946	2,613,068	13,191,793	1,027,183	4,931,172	182,207	1,312,969	33,741	304,809	5,305,923	34,581,689	1924
1925	1,065,290	15,243,243	2,105,240	11,473,271	1,065,395	4,701,847	164,199	1,702,243	50,774	682,235	4,450,898	33,802,839	1925
1926	2,157,087	21,328,739	3,338,349	17,987,527	902,443	4,518,929	202,527	1,700,563	52,476	544,247	6,652,882	46,080,005	1926
1927	1,320,563	16,880,670	1,414,756	8,638,551	507,641	2,761,638	252,629	2,307,569	70,438	853,100	3,566,072	31,441,534	1927
1928	1,944,061	18,902,050	2,785,464	18,512,649	991,504	564,567	297,886	2,140,685	51,195	505,017	6,070,110	45,624,968	1928
1929	1,693,050	19,388,299	2,570,506	15,551,647	860,876	4,659,754	172,070	1,302,887	73,740	769,869	5,370,242	41,672,456	1929
1930	848,787	11,172,954	3,150,652	12,773,894	596,000	2,162,306	329,988	3,011,505	63,560	764,254	4,988,987	29,884,813	1930
1931	1,695,782	16,161,532	2,978,512	10,226,769	536,909	1,726,203	170,208	1,119,332	51,124	462,800	5,432,535	29,696,636	1931
1932	2,104,727	10,803,982	2,116,573	6,368,695	821,128	2,301,408	149,351	606,798	68,709	368,522	5,260,488	20,449,405	1932
1933	2,182,371	14,649,771	2,183,443	10,498,358	658,245	3,028,584	161,633	884,276	41,006	345,310	5,226,698	29,406,294	1933
1934	2,626,002	17,687,617	3,822,602	15,349,445	735,055	2,651,538	235,560	1,197,000	51,367	155,230	7,470,586	37,040,830	1934
1935	823,175	7,216,754	3,254,528	13,767,517	852,730	3,414,160	188,918	1,263,479	36,475	348,024	5,155,826	26,009,934	1935
1936	2,482,555	19,648,482	4,589,270	18,430,508	1,106,983	4,094,532	218,232	1,453,566	57,908	452,125	8,454,948	44,079,213	1936
1937	2,101,154	21,590,206	3,619,298	18,151,343	729,114	3,507,933	135,078	1,096,905	69,394	682,031	6,654,038	45,028,418	1937
1938	2,523,123	19,663,910	3,222,104	12,350,571	786,859	2,848,266	216,732	1,342,715	42,726	341,788	6,791,544	36,547,250	1938
1939	1,971,338	18,560,539	2,509,519	12,656,697	626,412	2,905,286	103,156	708,013	28,036	280,036	5,239,211	35,110,571	1939
1940	953,381	9,402,841	2,908,025	15,770,772	860,539	4,312,766	284,130	2,122,330	22,303	219,742	5,028,378	31,828,451	1940
1941	1,164,888	15,952,391	4,636,649	32,593,271	710,507	4,844,060	356,213	3,595,982	38,246	480,998	6,906,503	57,466,702	1941
1942	912,006	13,804,764	2,818,650	22,565,374	942,789	7,178,696	372,537	4,442,108	43,127	686,567	5,089,109	48,677,509	1942
1943	1,982,175	30,381,755	2,322,057	18,701,467	882,578	6,755,829	158,734	1,937,981	50,965	802,162	5,396,509	58,579,194	1943
1944	1,580,757	24,254,327	2,087,322	16,924,966	985,725	7,565,526	187,053	2,278,938	36,939	584,787	4,877,796	51,608,544	1944
1945	1,173,356	18,260,328	2,239,282	18,201,352	688,485	5,312,578	195,860	2,078,066	41,709	676,640	4,338,692	44,528,964	1945
1946	1,065,898	22,880,873	2,057,121	24,685,452	617,155	7,120,923	193,061	3,231,992	37,874	748,321	3,971,109	58,667,561	1946
1947	1,876,239	45,390,823	1,723,617	32,269,419	500,211	8,983,297	148,715	3,522,434	53,684	1,131,912	4,302,466	91,297,885	1947
1948	1,635,463	44,994,233	1,304,044	31,617,066	774,661	16,345,475	241,799	6,278,595	54,645	1,459,245	4,010,612	100,694,614	1948
1949	967,626	25,504,967	2,682,330	42,921,708	499,226	7,572,386	192,352	4,004,944	50,007	1,258,463	4,391,541	81,262,468	1949
1950	1,166,052	34,211,966	1,095,534	25,663,330	780,684	15,269,095	191,501	5,131,834	54,321	1,550,183	3,288,092	81,826,408	1950
1951	816,831	26,017,227	1,559,748	32,505,086	721,152	10,950,656	345,159	5,131,859	91,425	2,596,635	3,534,315	77,201,463	1951
1952	1,181,162	33,783,498	1,172,168	21,705,200	966,660	15,140,209	197,004	4,201,837	56,970	1,521,732	3,573,964	76,352,476	1952
1953	994,293	27,996,373	955,528	17,439,908	800,882	11,214,236	127,676	2,894,714	56,222	1,442,103	2,934,601	60,987,334	1953
1954	832,794	24,185,988	1,158,271	23,696,336	1,036,574	15,725,411	169,187	4,102,896	49,063	1,369,022	3,245,889	69,079,653	1954
AVER.	1,170,971	30,322,627	1,594,765	27,070,486	738,569	11,363,427	200,231	4,057,917	54,592	1,375,426	3,759,128	74,189,883	AVER.

NOTE: – Figures for the last year shown are Pacific Fisherman's own compilation from original sources, and include fish canned elsewhere from salmon caught in Alaska. Figures for previous years are from official Fish & Wildlife Service data, to which have been added fish canned elsewhere from fish caught and frozen in Alaska.

Southeast Alaska Canned Salmon Packs by Subdivisions

YAKUTAT AREA (Cases)						YEAR	CAPE FAIRWEATHER — DIXON ENTRANCE * (Cases)					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
11,686	5,774	275	15,331	3,216	36,282	1933	69,440	1,472,239	424,586	80,474	4,930	2,051,669
19,407	4,788	311	30,316	4,633	59,455	1934	84,991	2,617,574	393,901	128,211	10,961	3,235,638
20,006	4,966	148	15,766	2,081	42,967	1935	139,423	2,195,094	540,800	126,727	9,027	3,011,071
22,545	9,737	105	13,609	1,102	47,098	1936	195,462	2,915,407	778,234	121,113	19,403	4,029,619
17,470	7,826	385	11,242	1,794	38,717	1937	150,274	2,135,342	503,381	77,283	28,899	2,895,179
27,211	7,417	397	26,854	1,450	63,329	1938	165,380	1,879,352	474,056	116,911	14,920	2,650,619
25,463	2,237	47	9,301	1,629	38,677	1939	169,895	1,473,121	296,057	56,935	812	1,996,820
14,947	4,962	164	27,747	511	48,331	1940	110,661	1,453,109	485,623	128,333	713	2,178,439
18,624	4,505	566	41,402	799	65,896	1941	119,235	3,636,256	319,372	152,569	1,005	4,228,437
11,005	2,465	10	21,513	96	35,089	1942	105,506	1,753,582	596,171	156,409	1,950	2,613,618
18,096	1,618	—	12,606	234	32,554	1943	67,247	1,036,821	673,692	80,928	1,626	1,860,314
15,386	3,447	3	14,301	789	33,926	1944	116,922	1,082,648	663,505	74,543	1,008	1,938,626
18,079	795	105	18,018	576	37,573	1945	111,717	1,040,854	266,732	90,687	1,980	1,511,970
4,081	1,939	23	4,056	358	10,457	1946	54,348	997,975	322,597	88,891	2,058	1,465,869
5,632	1,169	255	4,052	160	11,268	1947	50,273	679,648	257,689	69,490	3,843	1,060,943
3,589	4,042	506	10,840	305	19,282	1948	36,118	680,400	406,887	148,384	5,380	1,277,169
—	—	No operation in 1949		—	—	1949	39,552	2,103,982	243,483	124,919	1,015	2,512,951
9,154	1,873	647	6,252	271	18,197	1950	36,720	533,789	499,775	110,092	195	1,180,571
11,748	1,675	725	11,732	95	25,975	1951	58,569	1,224,907	465,609	252,661	541	2,002,287
5,425	1,813	1.302	19,113	660	28,313	1952	69,085	591,609	526,658	103,164	2,096	1,292,612
—	—	No operation in 1953†		—	—	1953	125,958	353,247	410,384	86,479	1.414	977.482
—	—	No operation in 1954†		—	—	1954	112,711	524,162	589,748	81,891	2,542	1,311,054
5,771	1,331	356	7,406	242	15,106	Aver.	69,505	873,057	398,956	115,666	2,106	1,459,290

ICY STRAIT DISTRICT (Cases)							WESTERN DISTRICT (Cases)					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
29,480	290,238	97,556	14,480	47	431,801	1933	—	—	—	—	—	—
32,035	340,032	97,572	20,291	3,216	493,146	1934	—	—	—	—	—	—
60,601	185,700	76,562	16,152	2,707	341,722	1935	—	—	—	—	—	—
69,191	349,700	183,036	20,791	5,583	628,301	1936	25,290	242,902	148,839	12,503	2,774	432,308
39,640	208,448	56,621	6,906	405	312,020	1937	18,477	194,675	90,053	5,616	24	308,845
46,526	158,698	52,890	14,058	215	272,387	1938	20,868	163,377	56,116	8,394	48	248,803
46,675	78,127	38,943	3,615	151	167,511	1939	24,839	87,137	35,328	3,628	36	150,968
18,846	121,320	74,615	13,409	262	228,452	1940	13,319	176,542	100,444	16,400	58	306,763
8,948	218,163	17,418	10,231	232	254,992	1941	16,962	562,046	56,078	22,368	456	657,910
10,964	118,790	44,834	8,311	248	183,147	1942	15,193	339,504	130,855	26,112	71	511,735
11,397	60,881	63,985	3,147	124	139,534	1943	16,266	123,318	177,210	9,039	55	325,888
21,568	123,896	67,537	3,830	77	216,908	1944	21,771	277,172	191,816	7,384	7	498,150
13,827	45,971	25,095	4,789	278	89,960	1945	23,247	109,183	65,431	6,585	19	204,465
6,315	26,449	31,376	4,436	60	68,636	1946	14,813	81,192	74,500	6,837	479	177,821
6,504	30,952	14,498	3,014	118	55,086	1947	17,718	92,612	57,592	14,658	837	183,417
501	2,745	6,893	1,239	—	11,378	1948	11,308	54,905	64,803	37,562	555	169,133
5,665	51,485	29,760	10,436	41	97,387	1949	12,580	378,876	43,136	29,721	442	464,755
3,362	3,287	25,164	5,473	22	37,308	1950	17,363	24,846	60,584	29,992	54	132,839
8,616	30,315	33,741	13,369	142	86,183	1951	16,195	147,996	107,998	65,040	6	337,235
11,169	17,919	26,184	7,355	217	62,844	1952	13,642	84,743	82,371	18,130	208	199,094
21,660	11,830	26,669	20,739	430	81,328	1953	26,068	34,900	108,921	3,167	86	173,142
8,590	13,369	25,831	1,547	90	49,427	1954	48,894	68,834	261,688	31,462	83	410,961
8,621	23,432	24,521	7,240	140	63,954	Aver.	20,183	107,809	92,702	24,315	277	245,286

*Cape Fairweather to Dixon Entrance comprises all Southeast Alaska with the exception of Yakutat, therefore figures in this section are the total of all the following districts. Final data for Southeast Alaska has not been reported by subdivisions since 1949. † Catch canned at Icy Strait & Wrangell plants.

NOTE:– Figures are based on U. S. Fish and Wildlife Service final data, which DO NOT include fish caught in these areas and canned elsewhere, and accordingly are somewhat different from those in other tables compiled independeltly by Pacific Fisherman. Figures for the latest year shown are preliminary. "Average" figures are for the last ten years.

JONES, WEISMANN & CO.

40 CENTRAL STREET
BOSTON 9, MASS.

GAVIN BROS., INC.
Packers' Sales Agents

SALMON
TUNA
CRABMEAT

Colman Building
Seattle 4, Wash.

901 HOMER STREET
VANCOUVER, B.C.

ESTABLISHED 1898

ANDERSON & MISKIN, LTD.

EXPORTERS

CANNED FISH

Canadian Salmon
American Salmon
Canadian Herring
Canadian Pilchards

California Pilchards
California Sardines
California Mackerel
California Squid

OFFICES

Colman Building
SEATTLE

260 California Street
SAN FRANCISCO

448 Seymour Street
VANCOUVER, CANADA

CABLE ADDRESS — MISKAND

1954-SOUTHEAST ALASKA CANNED SALMON PACK-1954

	COMPANY CANNED IN SOUTHEAST ALASKA	CANNERY LOCATION	RED or SOCKEYE			PINK			CHUM			COHO			KING	GRAND TOTAL (full cases)	
			1 lb. Talls etc.	½ lb. Flats (8 doz)	Total	1 lb. Talls etc.	½ lb. Flats (8 doz)	Total	1 lb. Talls etc.	½ lb. Flats (8 doz)	Total	1 lb. Talls etc.	½ lb. Flats (8 doz)	Total	1-lb. Talls		
1	Annette Island Canning Co.	Metlakatla	1,836	....	1,836	55,805	...	55,805	15,848	....	15,848	1,454	...	1,454	....	74,943	1
2	W. G. Brown	Security Bay (ft.) (1)	....	....	....	....	....	....	1,482	....	1,482	154	....	154	....	1,636	2
3	Excursion Inlet Packing Co.	Excursion Inlet	2,397	6,193	8,590	10,327	3,042	13,369	25,783	48	25,831	1,007	540	1,547	90	49,427	3
4	Farwest Wrangell Co.	Wrangell	2,035	1,685	3,720	10,025	7,348	17,373	14,687	994	15,681	1,591	5,006	6,597	(20) 1,383	44,754	4
5	Fidalgo Island Packing Co.	Ketchikan (2)	958	....	958	23,066	....	23,066	3,783	....	3,783	709	....	709	11	28,527	5
		Pillar Bay (2)	165	....	165	1,012	....	1,012	682	....	682	145	...	145	41	2,045	
6	Haines Packing Co.	Letnikof Cove	....	12,310	12,310	....	593	593	....	4,251	4,251	....	262	262	(21) 19	17,435	6
7	Halferty Canneries, Inc.	Taku (3)	(22) 42	....	42	(22) 135	...	135	(22) 7,012	....	7,012	(22) 6	....	6	....	(22) 7,195	7
8	G.P. Halferty Co & Oceanic Fisher's	Klawock (4)	2,503	....	2,503	17,952	....	17,952	14,231	...	14,231	1,351	....	1,351	25	36,062	8
9	P. E. Harris Co., Inc.	Hawk Inlet	17,035	....	17,035	17,524	....	17,524	46,498	....	46,498	689	....	689	248	81,994	9
10	Hood Bay Salmon Co.	Hood Bay	296	....	296	5,247	....	5,247	62,462	....	62,462	251	....	251	...	68,256	10
11	Hydaburg Cooperative Assn.	Metlakatla (5)	3,196	....	3,196	2,058	....	2,058	5,154	....	5,154	192	....	192	....	10,600	11
12	Independent Salmon Canneries	Ketchikan	2,783	....	2,783	23,896	....	23,896	11,589	....	11,589	2,021	....	2,021	335	40,624	12
13	Kayler-Dahl Fish Co., Inc.	Petersburg	....	8,275	8,275	2,263	4,947	7,210	24,005	18,413	42,418	....	9,484	9,484	....	67,387	13
14	Keku Canning Co.	Tyee (6)	881	....	881	7,463	....	7,463	22,463	....	22,463	396	....	396	11	31,214	14
15	Ketchikan Packing Co.	Ketchikan	756	....	756	20,508	...	20,508	2,870	....	2,870	663	...	663	....	24,797	15
16	Libby, McNeill & Libby	George Inlet, Petersburg & & Craig (7)	1,408	2,398	3,806	46,137	9,381	55,518	24,412	...	24,412	2,703	....	2,703	78	86,517	16
17	Lutak Fish Co.	Lutak Inlet	(22) 2,142	....	2,142	(22) 34	....	34	(22) 231	....	213	(22) 8	....	8	....	(22) 2,415	17
18	Nakat Packing Corporation	Waterfall & Ketchikan	6,211	1,957	8,168	53,149	15,727	68,876	18,803	3,012	21,815	3,260	6,447	9,707	37	108,603	18
19	New England Fish Company	Chatham, Waterfall, Ketchikan, & Tyee (8)	7,457	....	7,457	68,615	....	68,615	120,409	....	120,409	5,984	....	5,984	231	202,696	19
20	Northern Products Corp.	Sitka (9)	....	....	....	....	103	103	....	....	....	....	1,615	1,615	...	1,718	20
21	Pacific American Fisheries, Inc.	Petersburg, Pillar Bay & George Inlet (10)	1,807	3,259	5,066	33,079	10,812	43,891	29,429	304	29,733	2,400	1,116	3,516	131	82,337	21
22	Pacific Pearl Frozen Foods	Hydaburg	(22) 309	....	309	(22) 481	....	481	(22) 527	....	527	(22) 1,590	....	1,590	....	2,907	22
23	Pelican Packing Co.	Pelican, Sitka, etc. (11)	20,314	....	20,314	22,518	....	22,518	74,091	....	74,091	27,265	...	27,265	43	144,231	23
24	Petersburg Processors, Inc.	Petersburg (12)	(22) 1,095	....	1,095	(23) 3,068	....	3,068	(23) 9,438	....	9,438	(23) 1,681	....	1,681	(22) 23	15,305	24
25	Petersburg Seafoods, Inc.	Petersburg (13)	118	....	118	946	....	946	5,292	....	5,292	549	....	549	....	6,905	25
26	Queen Fisheries, Inc.	Kake (fl.)	....	....	....	....	...	...	....	4,136	4,136	....	19	19	....	4,155	26
27	Sitka Canning Co.	Sitka (14)	....	765	765	....	55	55	....	25	25	....	1,179	1,179	....	2,024	27
28	Todd Packing Co.	Pelican & Hawk Inlet (15)	1,132	....	1,132	9,454	....	9,454	6,998	....	6,998	269	....	269	14	17,867	28
29	Trans Pacific Fishing & Pkg.	Hawk Inlet (16)	158	....	158	1,676	....	1,676	781	....	781	36	....	36	6	2,657	29
30	Wards Cove Packing Co.	Ketchikan	1,635	....	1,635	29,531	....	29,531	12,288	....	12,288	1,908	....	1,908	....	45,362	30
31	Whiz Fish Products Co.	Tyee	881	....	881	7,463	....	7,463	22,463	....	22,463	396	....	396	11	31,214	31
	TOTAL SOUTHEAST ALASKA CANNERIES		79,550	36,842	116,392	473,432	52,008	525,440	583,711	31,183	614,894	58,678	25,668	84,346	2,737	1,343,809	
	OPERATOR	VESSEL or SOURCE	SOUTHEAST ALASKA SALMON SHIPPED OUT AND CANNED ELSEWHERE †														
1	American Packing Co.	"Coral Sea" (A-25)	....	....	....	7	1,041	1,048	1,978	215	2,193	...	....	....	....	3,241	1
2	Arctic Maid Fisheries	"Arctic Main" (B)	....	....	...	....	....	...	2,793	....	2,793	....	....	....	....	2,793	2
3	Northern Products Corp.	Shore Freezers (C-26)	....	....	....	....	253	253	....	56	56	....	1,031	1,031	....	1,340	3
4	Pacific American Fisheries	"St. Mark" (D-25)	....	....	....	....	....	....	(22) 932	....	932	(22) 28	....	28	....	(22) 960	4
5	Pacific Reefer Fisheries & American Pkg. Co. (27)	"Pacific Reefer" (A)	12	83	95	116	1,263	1,379	1,573	426	1,999	55	26	81	....	3,554	5
6	Pacific Reefer Fisheries & Whiz Fish Products Co. (27)	"Pacific Reefer" (E)	....	....	....	....	647	647	1,018	....	1,018	....	380	380	....	2,045	6
7	Trans Pacific Fishing & Pkg.	"Toni B" (F)	(28) 514	17	531	....	387	387	(28) 847	4	851	(28) 75	6	81	....	1,850	7
8	Whiz Fish Products Co.	"Reefer II" Etc., (E-25)	....	....	....	(22) 144	284	428	(29) 3,189	....	3,189	(29) 2,298	....	2,298	....	5,915	8
	TOTAL SOUTHEAST ALASKA SALMON CANNED ELSEWHERE		526	100	626	267	3,875	4,142	12,330	701	13,031	2,456	1,443	3,899	....	21,698	
	GRAND TOTAL		80,076	36,942	117,018	473,699	55,883	529,582	596,041	31,884	627,925	61,134	27,111	88,245	2,737	1,365,507	

NOTES: – (1) Floating cannery "Kayak", leased from Kayak Packing Co. (2) Shares from joint operations in Ketchikan Pkg. Co. and P. A. F. Petersburg plants. (3) Leased from Taku Fisheries. (4) Joint operation in leased plant of Klawock Oceanside. (5) Share of joint pack in Annette Island plant. (6) Share from joint operation in Whiz plant. (7) Includes shares from joint operations in Nakat Waterfall and P. A. F. Petersburg plants. (8) Includes shares from joint operations in Nakat Waterfall & Whiz Tyee plants. (9) Custom-canned by Sitka Canning Co. (10) Packs of Pacific American Fisheries Inc., are tabulated in detail on another page of this issue.

(11) Includes pack in leased Pyramid plant, Sitka, and some custom-canned at Hawk Inlet and Hood Bay; includes Hoonah & Yakutat fish through arrangement with Icy Straits Salmon Co.,; also includes a few Pinks custom-canned for Vita Food Products, Inc. (12) Leased plant of Specialty Processors. (13) Canned in Alaskan Glacier plant. (14) Includes small quantity canned for Vita Food Products, Inc. (15) Custom-canned in Pelican and P. E. Harris plants. (16) Custom-canned in P. E. Harris plant.

(20) Includes 1,234 full cases Halves. (21) All Halves, full cases.

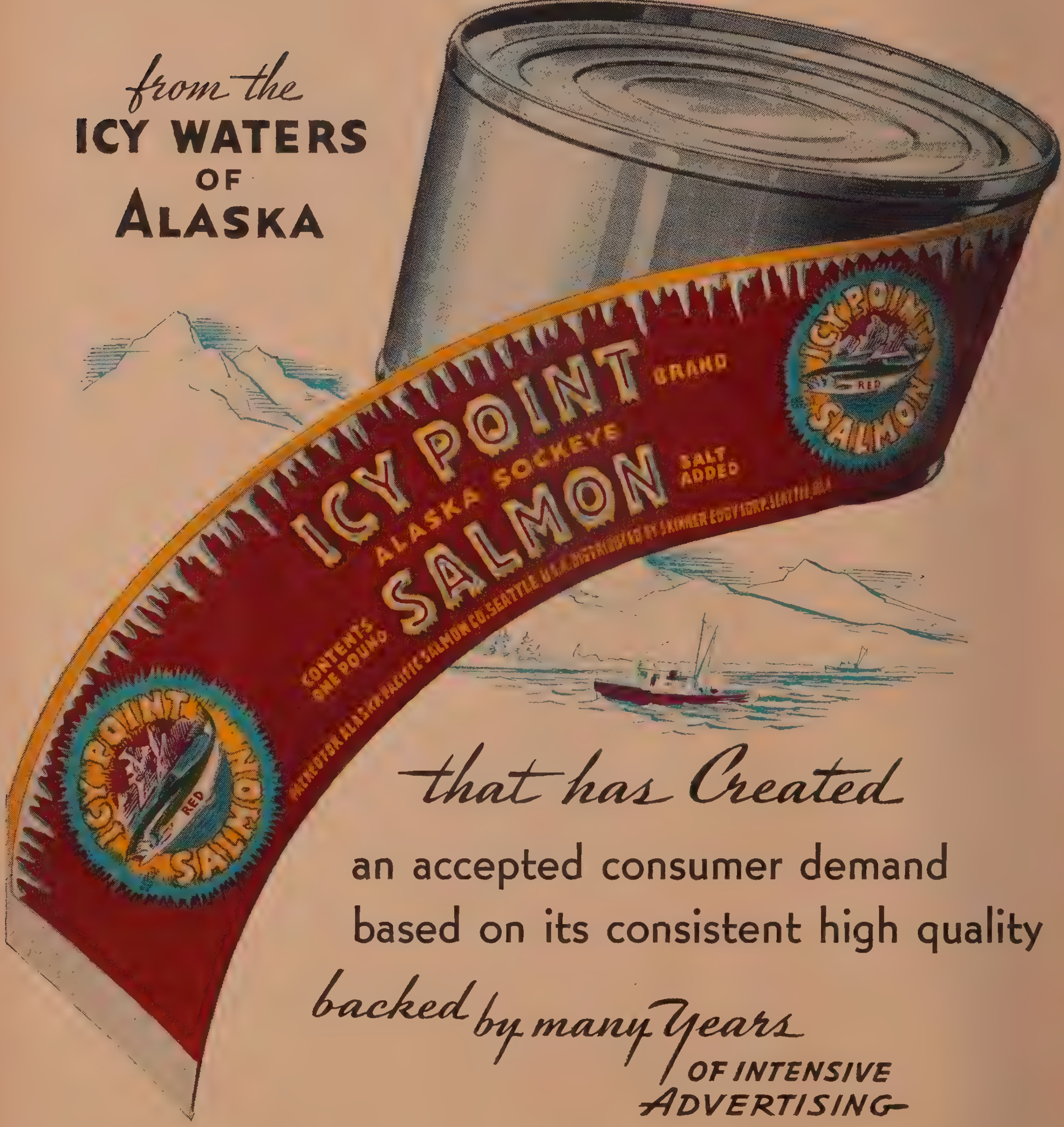
Four-pound cans are included with 1-lb. Talls, as follows: (22) All 4-lbs. (23) 1,095 cases Reds, 2,504 Pinks, 6,912 Chums, 1,517 Cohoes, 23 Kings; this pack also includes 1-lb. Flats: 564 cases Pinks, 2,526 Chums, 164 Cohoes. (28) 507 cases Reds, 8 Chums, 75 Cohoes. (29) 144 Pinks, 6 Chums, 2,080 Cohoes.

† The table of Southeast Alaska fish canned on Puget Sound is no doubt incomplete. Because of difficulty of segregation, some S. E. Alaska fish may be included in tabulations for other Alaska regions, as well as in the Puget Sound table. The fish (mostly custom-canned, but some purchased and packed for canners' accounts) was canned in the following plants: (A) American Packing Co., Anacortes; (B) Washington Fish & Oyster Co., Inc., Seattle; (C) Seattle Seafoods, Inc., Seattle; (D) Pacific American Fisheries, Bellingham; (E) Whiz Fish Products Co., LaConner; (F) Dressel-Collins Fish Co., Seattle.

(25) Fish purchased by canner. (26) From freezers at Pelican, Wrangell etc. (27) Joint operation.

a superior quality — SALMON

from the
ICY WATERS
OF
ALASKA


ICY POINT
BRAND
ALASKA SOCKEYE
SALMON
SALT ADDED
CONTENTS ONE POUND
PACKED FOR ALASKA PACIFIC SALMON CO. SEATTLE, U.S.A. DISTRIBUTED BY SKINNER EDDY CORP. SEATTLE, U.S.A.
ICY POINT SALMON
RED
ICY POINT SALMON
RED

that has Created

an accepted consumer demand
based on its consistent high quality

backed by many Years
OF INTENSIVE
ADVERTISING

Skinner & Eddy Corporation, Inc.

SKINNER BUILDING, SEATTLE 1, WASHINGTON

Southeast Alaska Canned Salmon Pack by Subdivisions

EASTERN DISTRICT (Cases)						YEAR	WRANGELL DISTRICT (Cases)					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
16,687	284,097	135,981	14,698	5,016	456,479	1936	25,405	326,866	93,544	27,726	1,085	474,626
8,923	323,556	65,931	6,904	8,257	413,571	1937	22,067	383,115	61,189	22,378	1,959	490,708
14,244	260,145	58,041	13,245	4,794	350,469	1938	18,492	217,161	59,652	20,433	86	315,824
11,730	217,432	53,199	7,179	317	289,857	1939	17,137	318,808	40,525	12,712	18	389,200
7,332	224,495	76,621	9,588	261	318,297	1940	21,306	165,783	73,544	32,046	26	292,699
9,079	601,161	64,880	9,210	113	684,443	1941	28,709	633,163	33,587	35,343	10	730,812
8,139	254,772	74,580	12,108	271	349,870	1942	22,212	167,742	67,652	42,730	895	301,231
7,192	93,048	110,912	5,452	799	217,403	1943	11,618½	120,730	80,696	17,431½	68	230,544
10,905	116,501	109,884	5,384	426	243,100	1944	16,065	59,256	66,069	9,024	17	150,431
10,168	94,505	29,267	4,010	207	138,157	1945	17,600	118,531	17,603	15,571	101	169,406
6,082	29,636	21,480	4,622	122	61,942	1946	6,417	66,258	16,017	18,894	173	107,759
5,342	38,272	28,935	3,960	510	77,019	1947	6,226	99,343	23,870	11,315	2,308	143,062
4,240	13,308	15,378	12,542	1,736	47,204	1948	7,260	53,860	55,460	22,799	2,971	142,350
92	43,944	6,055	8,661		58,752	1949	9,573	312,318	22,417	17,176	563	362,047
5,015	13,028	32,096	3,096	183	53,418	1950	7,190	36,846	44,815	30,849	55	119,755
1,146	74,522	68,391	20,777	168	165,004	1951	16,405	189,750	88,994	81,353	315	376,817
1,986	51,015	41,246	6,468	2	100,717	1952	13,445	78,552	80,763	30,359	1,413	204,532
8,713	12,333	25,930	3,905	6	50,887	1953	19,281	40,718	84,904	22,356	645	167,904
2,323	15,057	59,044	800	23	77,247	1954	21,116	65,357	110,282	20,844	1,633	219,232
4,511	38,562	32,782	6,884	296	83,035	Aver.	12,451	106,153	54,512	27,152	1,018	201,286

SOUTH PRINCE OF WALES ISLAND DISTRICT (Cases)					YEAR	SOUTHERN DISTRICT (Cases)					REGIONAL GRAND TOTAL
Reds	Pinks	Chums	Cohoes	TOTAL		Reds	Pinks	Chums	Cohoes	TOTAL	
25,716	620,300	104,038	33,170	783,224	1936	60,217	1,222,241	192,641	32,834	1,507,933	4,067,717
23,545	345,068	65,613	33,908	468,134	1937	36,031	671,257	165,508	17,098	889,894	2,933,896
20,395	329,083	81,737	39,708	470,923	1938	44,399	749,432	162,473	27,346	983,650	2,713,948
22,107	207,989	45,249	11,648	286,902	1939	46,699	549,500	80,549	16,427	693,175	2,035,497
11,283	251,718	58,655	19,001	340,657	1940	36,652	503,005	98,092	35,881	673,630	2,226,770
11,548	584,582	55,624	33,178	684,932	1941	42,980	1,012,240	89,384	38,846	1,183,450	4,294,333
12,091	337,418	96,628	36,901	483,038	1942	37,713	533,057	181,262	28,308	780,340	2,648,707
5,656	162,482	75,217	15,780	259,135	1943	23,660	473,156	165,752	29,537	692,105	1,892,868
7,790	144,209	94,371	18,816	265,186	1944	38,465	349,073	132,735	29,482	549,755	1,972,552
11,217	225,606	43,240	26,274	306,337	1945	33,735	418,327	77,829	30,873	560,764	1,506,662
6,141	203,887	67,452	17,340	294,820	1946	16,994	582,377	101,901	35,336	736,608	1,458,043
4,626	110,324	42,141	12,150	169,241	1947	9,279	308,929	88,107	22,248	428,563	1,067,656
2,886	163,397	64,240	26,125	256,648	1948	9,661	388,325	192,232	39,446	629,664	1,275,659
3,014	406,385	41,200	17,701	468,300	1949	8,561	909,596	100,512	41,364	1,060,033	2,511,274
2,591	182,381	83,659	16,199	284,830	1950	6,231	273,449	247,876	28,779	556,335	1,202,682
4,686	127,347	44,407	27,598	204,038	1951	13,438	592,425	124,633	38,474	768,970	1,964,222
10,952	103,694	28,715	15,632	158,993	1952	17,775	241,256	250,056	25,748	534,835	1,289,328
17,320	102,773	24,824	14,673	159,590	1953	32,916	150,693	139,136	21,886	344,631	977,482
15,235	53,063	43,073	10,435	121,806	1954	16,553	308,482	89,830	17,561	432,381	1,311,099
7,867	167,886	48,295	18,413	242,461	Aver.	16,514	417,386	141,211	30,171	606,282	1,456,410

NOTE: — Small quantities of Kings have been included with Cohoes in the last two districts listed. Final data for Southeast Alaska has not been reported by subdivisions since 1949. Figures are based on U. S. Fish and Wildlife Service final data, which DO NOT include fish caught in these areas and canned elsewhere, and accordingly are somewhat different from those in other tables compiled independently by Pacific Fisherman. Figures for the latest year shown are preliminary. "Average" figures are for the last ten years

UNITED STATES CANNED SALMON PACK

YEAR	Red or Sockeye	Pink	Chum or Keta	Med. Red Coho or Silverside	King or Chinook	Steelhead	GRAND TOTAL	YEAR
1916	2,217,259	1,755,433	1,260,131	529,096	579,615	19,013	6,360,547	1916
1917	2,908,995	3,432,573	1,173,040	431,160	597,704	23,937	8,567,409	1917
1918	2,711,251	2,425,500	1,677,416	647,020	589,786	25,170	8,076,143	1918
1919	1,338,401	2,079,775	1,995,446	593,192	664,844	19,899	6,630,347	1919
1920	1,541,286	1,618,103	1,090,103	251,533	586,749	13,659	5,101,705	1920
1921	1,870,396	845,184	288,539	238,595	369,756	10,142	3,622,612	1921
1922	2,181,197	1,659,781	650,079	491,643	313,992	24,983	5,231,675	1922
1923	1,974,495	2,930,985	702,536	415,084	362,660	25,997	6,411,757	1923
1924	1,533,237	2,619,013	1,266,654	418,336	378,218	29,862	6,245,320	1924
1925	1,187,784	2,659,144	1,214,304	477,159	481,071	14,859	6,034,321	1925
1926	2,218,638	3,334,787	1,067,053	429,942	408,136	33,128	7,491,684	1926
1927	1,430,116	1,993,679	656,911	459,209	481,914	31,643	5,053,472	1927
1928	2,010,956	2,791,061	1,302,422	445,496	335,907	16,605	6,902,447	1928
1929	1,819,469	3,298,127	1,115,924	367,847	358,085	24,104	6,983,556	1929
1930	1,232,340	3,154,364	683,451	566,250	390,756	16,932	6,044,093	1930
1931	1,792,111	3,684,092	615,441	285,930	390,563	12,355	6,780,492	1931
1932	2,200,104	2,118,250	1,006,776	257,735	318,770	13,218	5,914,853	1932
1933	2,321,784	2,726,783	727,917	243,055	323,176	18,027	6,360,742	1933
1934	2,876,981	3,825,989	849,721	371,521	322,968	14,901	8,361,990	1934
1935	882,408	3,624,148	893,612	364,625	257,773	14,888	6,037,454	1935
1936	2,553,160	4,590,422	1,249,188	287,224	283,941	19,282	8,983,217	1936
1937	2,168,528	3,947,271	786,397	236,708	369,725	17,568	7,526,197	1937
1938	2,677,723	3,222,559	845,433	294,257	218,989	15,248	7,274,209	1938
1939	2,020,200	2,791,790	668,274	227,143	238,827	25,293	5,971,527	1939
1940	1,040,241	2,910,972	919,368	375,668	269,217	33,436	5,548,902	1940
1941	1,308,740	4,790,573	851,902	440,653	372,624	33,162	7,779,654	1941
1942	1,194,985	2,819,501	1,089,555	406,032	320,531	21,911	5,852,515	1942
1943	2,004,204	2,384,186	895,265	191,135	185,340	16,261	5,676,391	1943
1944	1,618,729	2,087,621	987,382	202,364	203,761	19,222	5,119,079	1944
1945	1,227,162	2,549,848	693,803	239,086	181,367	19,314	4,910,580	1945
1946	1,350,629	2,060,243	694,728	217,004	222,744	17,767	4,563,115	1946
1947	1,911,284	2,363,069	666,497	293,058	356,665	22,091	5,612,664	1947
1948	1,734,091	1,308,689	1,054,637	370,610	338,037	20,362	4,826,426	1948
1949	1,075,427	3,236,317	718,878	277,495	207,868	8,931	5,524,916	1949
1950	1,290,249	1,097,811	1,317,761	352,126	205,981	10,534	4,274,462	1950
1951	936,120	2,001,352	981,524	466,880	244,832	14,862	4,645,570	1951
1952	1,413,670	1,175,054	1,290,667	397,534	159,086	19,011	4,455,022	1952
1953	1,162,614	1,396,388	966,418	207,144	158,437	19,645	3,910,646	1953
1954	1,349,655	1,159,320	1,328,233	209,139	126,004	12,557	4,184,908	1954
10 YR. AVERAGE	1,345,090	1,834,809	971,315	303,008	220,102	16,507	4,690,831	10 YR. AVERAGE

NOTE: – Figures represent full cases of 48-lbs. net. "Average" is for the last ten years. Figures for the last year shown are from Pacific Fisherman's compilation; those for previous years have been revised from official data.

THE CANADIAN FISHING CO. LTD.

Vancouver, B.C.

AFFILIATED WITH NEW ENGLAND FISH CO., SEATTLE, WASH.
"CANFISCO'S" WORLD-FAMOUS PRODUCTS INCLUDE

"GOLD SEAL" FINEST SOCKEYE SALMON and "GOLD SEAL" TUNA

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Great Sockeye run to the Fraser River in 1954 carried to British Columbia pack of this species to 680,000 cases, fourth highest in B. C. Sockeye history

- Sockeyes and Chums dominated in the British Columbia salmon pack of 1954, the tenth largest pack in the history of the Canadian industry.

The Sockeye production of 680,000 cases ranked fourth among the Canadian packs of this species, having been exceeded only in 1905, 19— and 1913, the cycle runs of the "Big Year" which broke against the barrier at Hell's Gate in 1913.

Pinks were somewhat disappointing, but 1954 was the off-year for this species, whose yield was far below that of the year previous. However, the 335,000-case Pink pack also compared poorly with the previous even-numbered year, being less than half that of 1952; and actually below any Pink pack since 1948.

The Chum pack of 580,000 cases was the largest the Province has put up in any year since 1942.

- *A GOOD YEAR*—Many unusual things happened in the Fraser River salmon fishery in the 1954 season, and for fishermen and packers alike most of them were good.

History was made on the Fraser in 1954. It was one of those years that will long be recalled—for its record harvest of Sockeyes, its big pack divided between Canadian and American fishermen, and for the odd but generally agreeable conduct of the fish themselves.

Perhaps it was the weather—the long succession of dull, wet days during the Summer — or perhaps some other factor yet to be determined by the biologists, but the Fraser's Sockeye had never performed just as they did last season, so far at least as the records show. Never before, for instance, had they by-passed Johnstone Strait entirely on their way to the spawning grounds, preferring the longer, unsheltered route by way of the Strait of Juan de Fuca. In that path they gave a wide berth to the traps at Sooke, which usually catch their quota of salmon inbound from the Pacific. The Sockeyes also avoided other areas where they are usually to be found in abundance, they moved up the big river itself in a way that confounded the experts. Practically the entire escapement up the stream occurred in two days instead of the usual week or so.

- *WORTH* $40 *MILLION*—The industry, of course, was more directly interested in the size of the run and the pack than in the idiosyncrasies of the fish. Packers placed the value of the B. C. salmon pack at roughly $40,000,000, Sockeyes account for about half that amount. These figures had never been equalled. The Fraser River Sockeye catch, mostly from the Adams River run, totalled some 9,526,000 salmon for fishermen of the two countries. It was the largest Sockeye harvest on the Fraser in any cycle year in history; the biggest year, regardless of cycle, since fateful 1913, which was the year marked not only by the century's second largest pack but by the rockslide at Hell's Gate

1954-BRITISH COLUMBIA CANNED SALMON PACK-1954

	# Canneries	(Cases)							
		Sockeye	Springs	Steelheads	Bluebacks	Coho	Pinks	Chums	TOTAL
District No. 1 (FRASER RIVER & HOWE SOUND)	21	680,930	14,064	3,068	4,302	124,075	335,777	580,508	1,742,724
Anglo-B.C. Packing Co., Ltd. - "Phoenix"									
British Columbia Packers, Ltd. - "Imperial"									
Canadian Fishing Co., Ltd. - "Home"									
Colonial Packers, Ltd. - "Colonial"									
Great West Packing Co., Ltd. - "Great West"									
Johnston Fishing & Packing Co., Ltd. - "Glen Rose"									
Francis Millerd & Co., Ltd. - "Great Northern"									
National Fisheries, Ltd. - "National"									
Nelson Bros. Fisheries, Ltd. - "St. Mungo"									
Queen Charlotte Fisheries, Ltd. - "Bidwell"									
Tulloch Fisheries, Ltd. - "Tulloch"									
Famous Foods Ltd., "Canadian Beauty"									
District No. 2 (SKEENA & NAAS AREAS)									
Anglo-B.C. Packing Co., Ltd. - "North Pacific"									
British Columbia Packers, Ltd. - "Sunnyside" "Rupert Cold Storage"									
Cassiar Packing Co., Ltd. -"Cassiar"									
Canadian Fishing Co., Ltd. - "Prince Rupert"									
Nelson Bros. Fisheries, Ltd. - "Port Edward"									
District No 2 (CENTRAL AREAS, etc.)									
British Columbia Packers, Ltd. - "Namu"									
Canadian Fishing Co., Ltd. - "Goose Bay"									
J. H. Todd & Sons, Ltd. - "Klemtu"									

NOTE:– Figures are preliminary statistics of the Canadian Fisheries Department and are subject to later correction. Owing to a change of policy, publication of statistics for the pack by districts in British Columbia has been discontinued, because present operating practice, in which fish from one district may be canned in another tends to confuse and impair information based on quantities canned within specific areas. Figures are for full cases of 48 one-pound cans or equivalent.

BRITISH COLUMBIA CANNED SALMON PACK

YEAR	Sockeyes Fraser River	Sockeyes Other Districts	Total Sockeyes	Springs	Cohoes & Bluebacks	Steelheads	Pinks	Chums	TOTAL Cases	YEAR
1903	204,809	163,908	368,717	25,657	51,918	....	27,382	....	473,674	1903
1904	72,688	250,536	323,226	38,675	66,351	....	....	37,642	465,894	1904
1905	837,489	243,184	1,080,673	28,359	44,458	....	13,970	....	1,167,460	1905
1906	183,007	276,672	459,679	32,344	69,132	....	68,035	....	629,460	1906
1907	59,815	254,259	314,074	26,098	87,900	683	118,704	....	547,459	1907
1908	63,126	291,897	355,023	28,164	81,917	1,137	76,448	....	542,689	1908
1909	542,248	298,193	840,441	19,017	61,918	....	46,544	....	967,920	1909
1910	133,045	432,870	565,915	28,789	74,382	140	34,613	58,362	762,201	1910
1911	58,487	325,022	383,509	48,456	119,702	100	305,247	91,951	948,965	1911
1912	108,784	335,778	444,762	80,437	165,102	207	247,743	58,325	996,576	1912
1913	684,596	287,582	972,178	41,049	69,822	....	192,887	77,965	1,353,901	1913
1914	185,483	351,213	536,696	49,328	120,201	....	220,340	184,474	1,111,039	1914
1915	89,040	387,002	476,042	58,104	146,956	2,927	367,352	82,000	1,133,381	1915
1916	27,394	187,395	214,789	66,726	183,623	9,982	280,644	240,201	995,065	1916
1917	123,614	116,234	339,848	76,276	157,589	11,740	496,749	475,273	1,497,475	1917
1918	16,849	259,610	276,459	107,354	191,068	15,916	527,745	497,615	1,616,157	1918
1919	29,628	339,817	369,445	100,551	199,993	4,493	346,639	372,035	1,393,156	1919
1920	44,598	306,807	351,405	118,301	120,033	2,395	520,856	84,626	1,187,616	1920
1921	35,900	128,014	163,914	49,752	124,348	1,220	192,906	71,408	603,548	1921
1922	48,744	250,870	299,614	39,596	109,276	1,657	581,979	258,204	1,290,326	1922
1923	29,423	305,224	334,647	27,142	119,141	1,760	440,932	418,055	1,341,677	1923
1924	36,200	333,403	369,603	27,456	119,989	1,811	657,538	568,916	1,745,313	1924
1925	31,523	361,120	392,643	73,499	199,180	1,996	445,400	607,904	1,720,622	1925
1926	83,589	253,406	336,995	69,189	181,894	2,165	772,993	701,962	2,065,198	1926
1927	57,085	250,947	308,032	58,977	181,968	1,746	247,617	562,109	1,360,449	1927
1928	26,530	177,011	203,541	18,856	156,757	865	792,362	863,256	2,035,637	1928
1929	60,407	220,899	281,306	19,377	196,444	672	477,969	424,982	1,400,750	1929
1930	107,896	369,782	477,678	38,804	190,594	1,656	1,111,937	401,114	2,221,783	1930
1931	54,688	236,776	291,464	27,147	102,175	1,326	206,995	55,997	685,104	1931
1932	83,447	200,908	284,355	76,060	188,971	1,168	223,716	306,761	1,081,031	1932
1933	53,481	204,626	258,107	20,266	159,052	1,459	532,558	293,630	1,265,072	1933
1934	145,579	232,303	377,882	29,784	225,430	1,282	435,364	513,184	1,582,926	1934
1935	76,415	274,029	350,444	21,920	231,492	596	514,966	409,604	1,529,022	1935
1936	165,651	249,373	415,024	29,854	246,061	1,068	591,532	597,487	1,881,026	1936
1937	103,137	222,637	325,774	16,171	133,208	844	585,576	447,602	1,509,175	1937
1938	186,794	260,659	447,453	15,531	301,123	1,035	400,876	541,812	1,707,830	1938
1939	73,216	196,672	269,888	16,103	245,096	797	620,602	386,584	1,539,070	1939
1940	86,215	280,188	366,403	17,741	224,524	1,205	213,911	643,443	1,467,227	1940
1941	149,715	305,582	455,297	50,476	391,407	3,454	427,766	920,470	2,248,870	1941
1942	418,491	248,080	666,571	24,745	211,139	4,649	270,622	633,834	1,811,560	1942
1943	72,507	92,382	164,889	10,658	186,042	3,095	530,188	363,348	1,258,221	1943
1944	107,431	140,283	247,714	19,362	183,546	3,926	389,692	255,316	1,097,557	1944
1945	122,384	205,617	329,001	12,800	218,887	2,922	825,512	350,188	1,739,311	1945
1946	381,580	161,447	543,027	8,100	100,154	4,115	116,607	576,133	1,348,138	1946
1947*	91,238	195,259	286,497	10,017	146,293	3,268	600,787	486,615	1,533,478	1947
1948	83,986	176,656	260,642	16,438	207,116	5,665	321,721	496,553	1,308,137	1948
1949	116,171	143,649	259,821	21,163	215,376	2,374	709,992	227,737	1,436,464	1949
1950	239,333	168,708	408,041	9,133	116,642	3,243	446,516	498,984	1,482,560	1950
1951	260,258	168,041	428,299	13,698	312,845	3,656	736,093	461,806	1,956,397	1951
1952	213,408	235,766	449,174	9,064	64,095	3,752	675,836	91,514	1,293,435	1952
1953	176,097	334,050	510,147	13,048	110,164	3,031	794,764	394,113	1,825,267	1953
1954	480,000	200,930	680,930	14,064	124,075	3,068	335,777	580,508	1,738,422	1954
10 YEAR AVER.	216,446	199,012	415,458	12,753	161,565	3,509	556,361	416,415	1,566,061	10 YEAR AVER

NOTE:– Figures for 1925 to 1951 have been corrected from official statistics. Figures for 1954 are subject to further correction. Figures for "Fraser River Sockeyes" include all Sockeyes canned in District No. 1, regardless where caught.

*Figures for 1947 include 28,321 cases packed from frozen fish of 1946 catch of various species.

which threatened the continued existence of the salmon fishery. The Sockeye were big, too, last season, averaging in some instances 9.6 fish to the case. The Canadian Sockeye catch on the Fraser was 4,720,000 fish; the pack 480,000 cases.

The Adams River run, of course, dominated the Fraser season, just as had been predicted by the staff of the International Pacific Salmon Fisheries Commission. The industry had expected and planned for a big run four years before and had been disappointed; but the Sockeye made good all predictions in 1954; even exceeded them.

British Columbia fishermen met the run with an unprecedented array of boats and gear. In the Gulf of Georgia and off the river some 300 seiners and 3,000 gillnetters shared the catch during the peak of the season, while as many seiners and 500 gillnetters operated in U. S. waters. Canneries in the Fraser River area worked practically around the clock, but they were well prepared for the onrush and there was none of the excessive congestion that marked the operation a dozen years before.

• *GEAR CONCENTRATED*— Seiners and gillnetters both did well. For the first time, gillnetters were permitted last season to use 300 fathom nets, especially authorized by the Canadian department of fisheries. Such nets were by no means in general use, but they were a factor. More important in their influence on the salmon fishery was the extensive use of nylon nets, and the astonishing effectiveness of this gear added to the problems of the Commission staff in its calculations. Total escapement was estimated at 2,481,000 and the Adams River escapement was very much more than enough. The Commission staff would have preferred at least 500,000 fewer to insure against overcrowding. But that was just one more of the uncontrollable vagaries of the season.

However, the Commission had good reason to be proud of the general behavior of the Sockeye. The fish may have chosen an unusual pattern of approach, but their volume was a convincing demonstration that the long-term program for the rehabilitation of the Fraser is founded on solid ground and that while Nature retains much of the mystery surrounding the Sockeye's private life the scientific planning is pretty obviously in the right direction. Encouraging to the Commission was the evidence that areas in the Fraser basin long virtually barren are showing signs of becoming once again a substantial source of Sockeye.

Total pack of all grades of salmon in British Columbia was over 1,742,000 cases. Sockeye contributed about 681,000 cases. It was a big year for Chums, and catches continued bountiful until late in the season.

1954-CANNED SALMON PACK OF PACIFIC AMERICAN FISHERIES, INC.-1954

DISTRICT AND CANNERY LOCATION	RED or SOCKEYE				PINK			CHUM				COHO			KING or CHINOOK			GRAND TOTAL,
	1-lb. Talls	1-lb. & 4-lb. Flats	½-lb. Flats (8 doz.)	Total	1-lb. Talls & Flats	½-lb. Flats (8 doz.)	Total	1-lb. Talls	4-lb. Flats	½-lb. Flats (8 dz.)	Total	1 & 4-lb. Talls & Flats	½-lb. Flats (8 doz.)	Total	1 & 4-lb Talls & Flats	½-lb. Flats (8 doz.)	Total	
WESTERN ALASKA																		
Dillingham	2,819	....	....	2,819	569	....	569	2,159	....	....	2,159	356	....	356	1,552	....	1,552	7,455
Naknek	12,348	....	....	12,348	11	....	11	1,023	....	....	1,023	1	....	1	99	....	99	13,482
Port Moller	4,436	....	7,916	12,352	398	4,706	5,104	3,909	...	3,400	7,309	147	3,239	3,386	255	254	509	28,660
TOTAL Western Alaska	19,603	....	7,916	27,519	978	4,706	5,684	7,091	....	3,400	10,491	504	3,239	3,743	1,906	254	2,160	49,597
CENTRAL ALASKA																		
King Cove	2,599	....	12,801	15,400	20,251	4,995	25,246	45,149	....	2,522	47,671	719	....	719	250	....	250	89,286
Chignik	367	....	....	367	1	....	1	21	....	....	21	....	....	....	....	....	....	389
Larsen Bay	1,100	....	....	1,100	16,140	....	16,140	4,552	....	....	4,552	188	....	188	4	....	4	21,984
Alitak	4,328	....	....	4,328	48,427	....	48,427	6,350	....	....	6,350	146	....	146	4	....	4	59,255
Kenai	4,057	1,238	....	5,295	(1)9,042	....	9,042	1,413	....	....	1,413	(2)1,292	....	1,292	(3) 371	....	371	17,413
TOTAL Central Alaska	12,451	1,238	12,801	26,490	93,861	4,995	98,856	57,485	....	2,522	60,007	2,345	....	2,345	629	....	629	188,327
SOUTHEAST ALASKA																		
Petersburg	166	....	3,259	3,425	3,483	10,812	14,295	23,466	....	304	23,770	565	1,116	1,681	50	....	50	43,221
Pillar Bay	165	....	....	165	1,012	....	1,012	682	....	....	682	145	....	145	41	....	41	2,045
George Inlet	1,476	....	....	1,476	28,584	....	28,584	5,281	....	....	5,281	1,690	....	1,690	40	....	40	37,071
TOTAL Southeast Alaska	1,807	....	3,259	5,066	33,079	10,812	43,891	29,429	....	304	29,733	2,400	1,116	3,516	131	....	131	82,337
TOTAL ALASKA	33,861	1,238	23,976	59,075	127,918	20,513	148,431	94,005	....	6,226	100,231	5,249	4,355	9,604	2,666	254	2,920	320,261
PUGET SOUNT																		
Bellingham	1,682	(4) 10	11,940	13,632	....	....	....	2	16,290	1,222	17,514	(4) 343	90	433	(4) 45	102	147	(5) 31,726
GRAND TOTAL	35,543	1,248	35,916	72,707	127,918	20,513	148,431	94,007	16,290	7,448	117,745	5,592	4,445	10,037	2,711	356	3,067	351,987

NOTE: – This tabulation shows Pacific American Fisheries' share of output from numerous joint operations, conducted in the following Pacific American plants: Dillingham (with Alaska Packers Assn., Bristol Bay Pkg. Co., C.R.P.A. and Libby); King Cove (with Alaska Pacific); Alitak (with Alaska Packers Assn. and Libby); Petersburg (with Fidalgo Island and Libby, also canning Pillar Bay fish); and in plants of other companies, as follows: Naknek, Chignik and Larsen Bay (Alaska Packers Assn.); Kenai (Snug Harbor Pkg. Co.); and George Inlet (Libby, McNeill & Libby). No fish canned in Excursion Inlet Pkg. Co. plant are included here. (1) Includes 160 cases 1-lb. Flats. (2) Includes 65 cases 1-lb. Flats. (3) Includes 173 cases 1-lb. Flats. (4) Puget Sound pack includes 4-lb. cans, as follows: 10 cases Sockeyes; 16,290 cases Chums; 337 Cohoes and 43 Kings. (5) Includes 932 cases Chums and 28 Cohoes in 4-lb. cans, from Southeast Alaska fish purchased and canned at Bellingham; also includes a few cases custom-canned for P.A.F. at Friday Harbor.

1954-RECAPITULATION OF ALASKA CANNED SALMON PACK-1954

DISTRICT	RED or SOCKEYE				PINK			CHUM				Medium RED or COHO			KING or CHINOOK			GRAND TOTAL (Full Cases)
	1-lb. Talls	1-lb.and 4-lb. Flats	½-lb.Flats (8-doz.)	TOTAL	1-lb. Talls etc.	½-lb.Flats (8 doz.)	TOTAL	1-lb. Talls	1-lb.& 4-lb. Flats	½-lb. Flats (8 doz)	TOTAL	1-lb. Talls & Flats, etc.	½-lb.Flats (8 doz.)	TOTAL	1-lb. Talls & Flats, Etc.	½-lb. Flats (8 doz)	TOTAL	
Western Alaska	381,632	(3) 5,920	37,402	424,954	9,814	...	9,814	44,090	(3) 28	216	44,334	6,231	3	6,234	(10) 10,271	11,991	22,262	507,598
Central Alaska	158,557	(1) 2,431	129,834	290,822	(2) 586,272	32,603	618,875	346,536	(3) 9	17,770	364,315	(4) 59,503	15,205	74,708	(5) 7,845	16,219	24,064	1,372,784
Southeast Alaska	75,981	(3) 4,095	36,942	117,018	(6) 473,699	55,883	529,582	577,887	(7)18,154	31,884	627,925	(8) 61,134	27,111	88,245	(9) 1,484	1,253	2,737	1,365,507
TOTAL ALASKA	616,170	12,446	204,178	832,794	1,069,785	88,486	1,158,271	968,513	18,191	49,870	1,036,574	126,868	42,319	169,187	19,600	29,463	49,063	3,245,889

NOTES – Salmon shipped, frozen or fresh, from the three regions of Alaska and canned elsewhere, are included, as far as possible, in the above figures for the regions of origin.

Can sizes not separately shown are included with others, as follows: (1) Includes 247 cases 4-lbs. (2) Includes 5,204 cases 4-lbs and 163 Pound Flats. (3) All 4-lbs. (4) Includes 14,821 cases 4-lbs. and 63 Pound Flats. (5) Includes 20 cases 4-lbs. and 624 Pound Flats. (6) Includes 3,298 cases 4-lbs. and 564 Pound Flats. (7) Includes 15,628 cases 4-lbs. (8) Includes 5,304 cases 4-lbs. and 164 Pound Flats. (9) Includes 23 cases 4-lbs. (10) Includes 562 cases 4-lbs.

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COLUMBIA RIVER PACKERS ASSOCIATION, INC.
Astoria, Oregon

1954-PUGET SOUND CANNED SALMON PACK-1954

	COMPANY	CANNERY LOCATION	SOCKEYE				PINK	CHUM			COHO OR SILVER				KING or CHINOOK			GRAND TOTAL (Full Cases)	
			1-lb. Talls, 4-lb. Flats, etc, (48-lb).	½-lb. Flats (8 dz)	¼-lb. Flats (48-lb) net	Total	½-lb. Flats, etc., (48-lbs)	1-lb. Talls & 4-lb. Flats	½ &¼-lb. Flats, (48-lb) net	Total	1-lb. Talls 4-lb. Flats etc. (48-lb)	½-lb. Flats (8 dz)	¼-lb. Flats (48-lb) net	Total	1-lb. Talls & 4-lb Flats	½ & ¼ lblb. Flats net	Total		
1	Alaska Packers Assn.	Semiahmoo	...	56,298	...	56,298	...	...	3,225	3,225	...	1,193	...	1,193	...	...	...	60,716	1
2	American Packing Co.	Anacortes	899	22,290	...	23,189	...	28,938	2,556	31,494	125	573	...	698	...	...	...	55,381	2
3	Anacortes Canning Co.	Anacortes	4,081	12,006	...	16,087	...	...	32	3	166	...	...	169	...	141	141	16,429	3
4	Burk Canning Co.	Bellingham	3,908	20,432	1,320	25,660	...	1,194	176	1,370	27	466	214	707	8	17	25	27,762	4
5	Columbia River Packers Assn. Inc	Bellingham	...	55,587	6,374	61,961	...	...	104	104	...	1,442	26	1,468	...	3	3	63,536	5
6	Crown Seafood Sales, Inc.	Seattle ‡	159	...	...	159	(1) 46	(1)13,234	...	13,234	(1) 193	35	...	228	(1) 5	...	5	(17)13,672	6
7	Dressel-Collins Fish Co.	Seattle	...	5,855	...	5,855	...	(2)15,099	9	15,108	84	537	...	621	2	13	15	21,599	7
8	Farwest Fishermen, Inc.	Anacortes	5,313	38,112	1,873	45,298	(9) 92	14,714	9,358	24,072	12	183	1,632	1,827	...	558	558	71,847	8
9	Fishermen's Packing Corp.	Anacortes	21,847	51,982	7,531	81,360	91	636	2,596	3,232	1	1,603	655	2,259	...	732	732	87,674	9
10	Food Specialty Co.	Seattle	...	...	...	...	...	(3)10,000	...	10,000	(3)5,500	...	...	5,550	...	...	...	15,500	10
11	Friday Harbor Canning Co.	Friday Harbor	...	(15)9,415	919	10,334	(10) 5	...	22	22	1	73	83	157	...	17	17	10,535	11
12	John C. Jackson, Inc.	Friday Harbor	(14)5,000	6,350	60	11,410	...	6,200	4,500	10,700	(14) 220	500	80	800	30	(11)118	148	23,058	12
13	Kayler-Dahl Fish Co.	Seattle*	...	...	...	...	...	2,500	...	2,500	...	...	...	...	...	...	...	2,500	13
14	Nelbro Packing Co.	Point Roberts†	3,464	...	...	3,464	...	36,852	2,313	39,165	...	...	...	...	...	85	85	42,714	14
15	New England Fish Co.	La Conner ††	8,215	22,306	...	30,521	...	10,721	1,337	12,058	133	167	...	300	...	29	29	42,980	15
16	Pacific American Fisheries, Inc.	Bellingham	(4)1,692	11,940	...	13,632	...	(4)15,360	1,222	16,582	(4) 315	90	...	405	(4) 45	102	147	(16)30,766	16
17	Perfection Smokery	Seattle	...	100	...	100	...	...	...	...	...	...	...	...	...	350	350	450	17
18	Scheerer Canning Co.	Everett**	...	2,375	500	2,875	...	(5)4,200	100	4,300	(5) 90	...	750	840	...	...	...	8,015	18
19	Sea-Pac Company, Inc.	Bellingham	38	340	...	378	...	4,844	...	4,844	35	7	...	42	...	...	...	5,264	19
20	Sebastian-Stuart Fish Co.	Anacortes	3,133	33,416	3,148	39,697	815	(6)2,222	402	2,624	...	1,001	479	1,480	...	(12) 55	55	44,671	20
21	Washington Fish & Oyster Co.	Seattle	7,640	32,905	1,678	42,223	...	(7)46,226	7,994	54,220	67	2,149	4,513	6,729	271	(13)2,263	2,534	(18)105,706	21
22	Whiz Fish Products Co.	La Conner	9,022	24,839	...	33,861	...	(8)15,898	2,147	18,045	(8) 442	1,216	...	1,658	17	...	17	53,581	22
	TOTAL		74,411	406,548	23,403	504,362	1,049	228,838	38,093	266,931	7,248	11,401	8,432	27,081	378	4,483	4,861	804,284	

NOTES: – As far as possible, Alaska fish canned on Puget Sound are OMITTED from this table and tabulated with the Alaska packs, though some Alaska fish (also fish from the Washington coast) are probably included here. Alaska salmon canned on Puget Sound but tabulated elsewhere amounted in all to about 105,814 full cases, including: from Bristol Bay, 67,266 Reds, 2,979 Chums, 3 Cohoes and 1,642 Kings; from Central Alaska, 237 Reds, 9,296 Pinks, 2,682 Chums, and 11 Cohoes; from Southeast Alaska, 626 Reds, 4,142 Pinks, 13,031 Chums and 3,899 Cohoes.

Packs of fish from British Columbia are included in this table, with no attempt to segregate them- but are incomplete (especially as to Chums), as data on some such packs were not available at presstime. Most of the Chums were from that source (probably less than 40,000 cases being Puget Sound fish), as well as some Cohoes and a few Sockeyes, etc.

FOUR-POUND cans are included with Talls, as follows: (1) 196 cases Chums, 103 Cohoes, 1 King (also 42 Pink Talls under Halves); (2) 216 Chums; (3) 2,500 Chums, 3,000 Cohoes; (4) 10 Sockeyes, 15,358 Chums, 309 Cohoes, 43 Kings. (5) 1,850 Chums, 90 Cohoes; (6) 1,442 Chums; (7) 2,796 Chums; (8) 2,548 Chums, 289 Cohoes. Listed with Pink Halves are: (9) 11 Talls; (10) 2 Talls.

QUARTER-POUND cans (basis 48 lbs. net) are included with Halves, as follows: (11) 8 cases Kings; (12) 50 Kings; (13) 2,203 Kings.

(14) Includes 1-lb. Flats, 5,000 Sockeyes and 150 Cohoes. (15) Includes 885 full cases skinned and boned, in glass. (16) Exclusive of Alaska fish. (17) Includes considerable custom-canned B. C. fish, not shown elsewhere. (18) Includes all salmon custom-canned FOR Washington Fish & Oyster Co.

* New cannery. † Canned in Iwersen plant. †† Canned in plant of Whiz Fish Products Co.
** Formerly operated as canning dept. of Everett Fish Co. ‡ Formerly operated as Haines Oyster Co.

1954-COLUMBIA RIVER CANNED SALMON PACK-1954

	COMPANY	CANNERY LOCATION	CHINOOK							SILVERSIDE			Blue-black	CHUM	STEELHEAD TROUT			GRAND TOTAL (Full Cases)	
			Fancy				Choice, Standard & Pale												
			1-lb. Flats Ovals	½lb. Flats & ovals (8 doz.)	¼lb. Flats & ovals (48-lbs.)	Total	1-lb. Talls & Flats	½ & ¼-lb. Flats (48-lbs.)	Total	1-lb. talls	½ & ¼-lb. Flats (48-lbs.)	TOTAL	½ & ¼-lb.† Flats (48-lbs.)	All† Sizes (48-lbs.)	1-lb. Flats Ovals	½ & ¼-lb. Flats (48-lbs.)	TOTAL		
1	Barbey Packing Corporation	Astoria, Oregon	...	5,270	...	5,270	..	1,843	1,843	..	730	730	130	...	...	2,069	2,069	10,042	1
2	Chinook Packing Company	Chinook, Wash.	...	3,233	...	3,233	...	1,701	1,701	...	1,303	1,303	204	(7)2,115	...	...	...	8,556	2
3	Columbia River Packers Assn.	Astoria, Oregon	...	15,462	2,098	17,560	...	(2)11,561	11,561	5	(2)7,474	7,479	(2) 985	1,403	...	(2)5,636	5,636	(11) 44,624	3
4	Cowlitz Fish Company	Kelso, Wash.	...	652	...	652	...	506	506	...	41	41	36	(8) 504	...	...	...	1,739	4
5	Keystone Packing Company	Ilwaco, Wash.	...	1,216	85	1,301	...	(3) 507	507	...	...	...	(3)1,959	(9)5,803	...	...	...	9,570	5
6	New England Fish Company	Chinook, Wash. (1)	...	2,650	...	2,650	...	2,446	2,446	...	9	9	340	...	...	...	...	5,445	6
7	Point Adams Packing Company	Hammond, Oregon	265	3,234	1,250	4,749	98	(4) 2,728	2,826	127	(4)2,115	2,242	(4)1,732	(10)3,148	30	(4)1,865	1,895	16,592	7
8	Portland Fish Company	Portland, Oregon	...	4,361	...	4,361	...	224	224	...	(5) 398	398	(5) 756	...	...	518	518	6,257	8
9	Union Fishermen's Co-Op Pkg. Co.	Astoria, Oregon	(12)305	3,487	829	4,621	(13) 9	(6) 5,818	5,827	...	(6) 534	534	(6)2,117	...	133	(6)2,306	2,439	15,538	9
	TOTAL *		570	39,565	4,262	44,397	107	27,334	27,441	132	12,604	12,736	8,259	12,973	163	12,394	12,557	118,363	

NOTES:– * The Columbia River pack includes some fish caught on the Oregon and Washington coast. † Unless otherwise noted, figures for Bluebacks represent Halves (basis of 8 doz.); for Chums, 1-lb. Talls. (1) Canned in plant of Chinook Packing Co.

Quarters (basis of 48 lbs.) are included with Halves as follows: (2) 295 Chinooks, 3,961 Silvers, 985 Bluebacks, 5,336 Steelheads; (3) 98 Chinooks, 1,173 Bluebacks; (4) 250 Chinooks, 433 Silvers, 179 Bluebacks, 309 Steelheads; (5) All Quarters; (6) 103 Chinooks, 316 Silvers, 296 Bluebacks, 299 Steelheads. The following Chums are in Halves: (7) 252; (8) All Halves; (9) 213; (10) 31.

(11) Pack to Nov. 30 only. (9) Includes 341 cases, in Talls, reported as Pinks. (12) Includes 209 #1 Ovals. (13) All #1 Flats.

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CANNED SALMON: Copper River Chinook and Sockeye; Alaska Reds, Cohoe, Pinks and Chums; Puget Sound and Columbia River Salmon. Packed 48, ½-lb. flats and 48, 1-lb. talls.

CANNED CRABMEAT: Fancy pack Dungeness and King varieties. Canned in 48, ½-lb. flats, 24, ½-lb. flats.

★

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● *PUGET'S PEAK RUN*—The 1954 Sockeye fishery shared by the fleets from Puget Sound and British Columbia in the waters leading to the Fraser River encountered a run exceeding that of any year since 1913. Moreover, for its particular four-year cycle, the 1954 run was the greatest *ever* known.

Approximately 10 million Sockeye were taken by the two fleets, in a catch very evenly divided, with almost 500,000 cases for each country.

The fish were large, and above average in quality. The mean weight per fish was 7.3 lbs., which requires about 7.3 fish to the full case. On Bristol Bay the normal requirements of Red salmon per case is about 12 fish.

● *TOO MANY SPAWNERS* — The tremendous Sockeye run of 1954—the dominant Adams River segment of it at least—was the product of 1.3 million spawners which escaped to the gravels of the Adams in 1950, when the commission closed-down fishing of a weak run in mid-season to insure escapement.

Believing that the progency from a properly-timed spawning of 1.3 million fish approaches the optimum rearing capacity of Shushwap and related lakes, where these young fish spend their first year or more, the staff of the Sockeye Commission set an escapement target of 1.3 to 1.5 million fish from the 1954 run to the Adams River.

Actually, and due to a vagary of the 1954 run, the Adams escapement exceeded 2 million fish, and the Commission biologists fear that the area may have been overspawned.

PUGET SOUND CANNED SALMON PACK

Puget Sound salmon canning commenced in 1877 with a pack of 5,500 cases, but no segregation by species is available prior to 1889. From the beginning production increased, with much fluctuation, to 22,000 cases in 1887; the average for intervening years being 7,867 cases. Values shown are based on opening prices. "Average" figures at bottom of table are for last ten years.

YEAR	# of Plants Oper.	Sockeye		Pink		Chum		Coho		Chinook		TOTAL		YEAR
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888	4	...	...	...	...	...	...	...	...	...	...	21,975	$126,356	1888
1889	2	....	...	2,809	$7,584	1,145	$3,435	7,480	$37,400	240	$1,200	11,674	49,619	1889
1890	1	...	...	...	...	4,000	12,000	3,000	15,000	1,000	5,000	8,000	32,000	1890
1891	2	5,538	$24,921	5,647	15,246	3,093	10,825	5,869	19,368	382	2,101	20,529	72,461	1891
1892	2	2,954	11,816	...	...	16,180	56,630	7,206	24,500	86	473	26,426	93,419	1892
1893	3	47,852	103,371	17,530	47,331	11,380	31,295	11,812	59,060	1,200	6,480	89,331	247,537	1893
1894	3	41,781	188,014	9,049	24,432	22,152	60,918	22,418	89,672	...	...	95,400	363,036	1894
1895	7	65,143	273,108	23,633	62,556	38,785	94,741	50,865	154,218	1,542	7,325	179,968	591,948	1895
1896	11	72,979	350,299	...	...	26,550	73,013	82,640	264,448	13,495	67,475	195,664	755,235	1896
1897	12	312,048	1,248,192	57,268	171,804	23,310	64,103	91,900	282,133	9,500	39,045	494,026	1,805,277	1897
1898	18	252,000	1,058,400	...	...	38,400	105,600	98,600	335,240	11,200	50,624	400,200	1,549,864	1898
1899	19	499,646	2,368,334	252,733	734,241	31,481	86,427	111,387	418,176	24,364	103,180	919,611	3,170,358	1899
1900	19	228,704	1,149,000	...	...	89,100	245,025	128,200	512,800	22,350	134,100	469,450	1,940,925	1900
1901	...	1,105,096	....	275,494	...	...	...	...	...	...	...	1,380,590	...	1901
1902	21	339,556	2,047,655	...	...	93,492	467,460	85,817	429,085	30,049	150,245	548,914	3,094,445	1902
1903	22	167,211	1,003,260	181,236	407,984	12,001	30,002	103,450	413,800	14,500	72,500	478,398	1,929,546	1903
1904	13	123,419	653,871	...	...	49,656	124,254	118,127	447,851	14,441	69,352	305,643	1,295,328	1904
1905	24	847,122	4,952,718	70,992	212,976	41,057	102,643	79,335	337,174	1,804	9,922	1,040,310	5,615,433	1905
1906	16	182,241	1,251,236	...	...	149,218	708,781	94,497	472,485	8,139	48,834	430,602	2,481,336	1906
1907	14	93,122	698,416	433,423	1,300,269	50,249	150,847	119,472	476,288	1,814	16,326	698,080	2,642,146	1907
1908	22	170,951	1,196,657	6,075	18,225	47,607	142,821	128,922	644,922	95,210	664,470	448,765	2,669,095	1908
1909	11	1,097,904	6,183,300	370,993	902,342	53,688	128,916	143,133	630,446	13,019	72,604	1,632,949	7,917,608	1909
1910	24	248,014	1,673,095	108	388	146,942	514,297	162,755	895,153	10,064	60,324	567,883	3,143,256	1910
1911	15	127,761	1,168,145	1,046,992	4,302,344	104,321	392,122	256,124	1,591,185	21,823	172,582	1,557,021	7,727,524	1911
1912	20	184,680	1,660,173	700	2,185	60,760	154,193	149,727	761,200	20,252	101,706	416,125	2,679,457	1912
1913	22	1,673,099	10,871,178	791,886	2,092,401	56,225	124,970	61,019	235,372	1,234	5,247	2,583,463	13,329,168	1913
1914	31	335,230	3,208,969	892	4,212	278,801	955,920	151,893	759,689	26,044	167,322	792,860	5,095,839	1914
1915	41	64,584	676,769	583,649	1,795,285	411,724	155,744	180,783	902,335	28,466	145,555	1,269,206	4,675,418	1915
1916	32	84,637	699,161	1,887	8,264	427,878	1,492,161	155,832	957,650	37,030	280,708	707,278	3,437,944	1916
1917	45	411,538	5,366,218	1,124,884	7,823,960	216,285	1,362,634	114,276	1,065,983	57,543	540,904	1,921,554	16,159,699	1917
1918	32	50,723	781,992	6,605	53,336	267,538	1,715,159	235,860	2,532,553	63,472	754,637	624,198	5,837,677	1918
1919	35	64,346	1,186,413	421,215	3,854,113	525,541	1,687,787	210,883	2,618,504	73,618	910,968	1,295,626	12,257,785	1919
1920	11	62,654	1,725,252	4,669	28,860	48,849	3,225,368	24,502	221,688	25,846	370,215	166,520	2,571,385	1920
1921	23	102,967	1,991,368	404,713	1,870,385	30,831	123,608	89,412	798,541	25,567	199,609	653,490	4,983,511	1921
1922	16	48,566	945,178	2,225	13,273	65,552	283,395	111,771	744,656	20,615	222,641	248,729	2,209,143	1922
1923	18	47,402	860,000	475,849	2,429,800	97,081	471,790	122,000	785,000	15,806	150,407	758,138	4,696,997	1923
1924	12	69,369	1,182,358	5,945	39,192	134,360	651,014	87,879	688,950	20,096	216,043	317,649	2,777,557	1924
1925	23	112,023	2,098,683	553,904	3,179,302	43,345	207,546	173,215	1,902,289	29,183	432,349	911,670	7,820,169	1925
1926	14	44,673	532,408	2,107	15,095	112,204	573,411	123,469	1,163,286	27,972	365,826	310,425	2,650,026	1926
1927	21	97,594	2,115,410	578,923	3,669,941	38,129	225,654	135,802	1,358,020	41,796	588,314	892,244	7,957,339	1927
1928	14	60,081	1,207,981	5,597	41,091	146,356	833,114	89,923	777,472	23,419	294,816	325,376	3,154,024	1928
1929	22	111,898	2,203,496	727,621	4,639,076	156,683	911,584	101,635	1,044,372	34,007	439,778	1,131,844	9,238,306	1929
1930	12	352,194	4,890,921	3,712	18,486	64,234	237,123	122,691	1,240,876	29,775	407,912	572,606	6,795,318	1930
1931	18	83,728	1,316,348	705,580	2,486,377	55,189	177,000	76,025	569,699	28,359	293,022	948,881	4,842,446	1931
1932	10	78,319	897,006	1,677	5,779	146,151	381,116	60,740	330,385	24,024	168,625	310,911	1,782,912	1932
1933	19	125,738	1,340,000	543,340	2,643,528	37,039	171,742	44,568	292,684	21,091	221,776	771,776	4,669,910	1933
1934	21	340,787	3,632,587	3,296	17,331	72,841	251,991	69,080	517,901	14,089	74,024	500,093	4,493,834	1934
1935	14	51,714	720,076	369,620	1,652,161	15,636	68,402	70,514	534,956	9,243	91,396	516,727	3,066,991	1935
1936	9	60,063	813,510	1,152	7,598	86,070	315,465	30,568	292,528	4,708	43,427	182,561	1,472,528	1936
1937	13	56,983	925,160	327,973	1,676,692	18,759	91,696	31,747	323,976	6,412	76,750	441,874	3,094,274	1937
1938	13	139,152	1,824,396	455	2,641	7,697	32,193	10,268	100,753	2,371	36,800	159,943	1,996,783	1938
1939	14	43,561	669,202	282,271	1,574,317	15,080	76,786	54,905	485,760	2,446	33,508	398,263	2,839,573	1939
1940	9	62,748	1,122,684	2,947	17,432	23,405	114,798	30,654	231,878	1,674	15,734	121,428	1,502,526	1940
1941	9	110,758	2,140,457	153,924	1,203,657	25,423	187,224	46,213	553,230	4,769	62,354	341,087	4,146,922	1941
1942	10	258,488	5,255,888	851	7,965	2,223	17,748	6,862	97,693	1,204	26,389	269,628	5,405,683	1942
1943	10	19,149	424,339	62,129	637,730	243	2,432	26,292	390,847	2,864	12,456	110,677	1,467,804	1943
1944	3	37,214	830,719	299	3,313	...	...	373	5,883	1,064	21,240	38,950	861,155	1944
1945	6	53,532	1,176,467	305,245	2,724,176	1,184	12,467	18,802	258,076	3,639	63,511	382,402	4,234,697	1945
1946	20	271,311	10,108,350	91	2,184	47,099	989,079	7,118	163,714	6,841	268,120	332,460	11,531,447	1946
1947	25	7,516	315,956	639,426	13,423,416	139,131	2,532,194	79,450	2,254,404	29,143	875,098	894,666	19,401,068	1947
1948	22	91,268	5,005,792	4,645	128,328	245,133	5,558,820	70,659	2,049,606	27,043	903,578	438,748	13,646,124	1948
1949	23	94,627	2,959,425	557,740	9,305,100	162,532	2,381,000	55,910	1,273,000	8,594	224,000	879,403	16,142,525	1949
1950	20	128,385	4,984,208	2,277	61,855	512,997	10,752,172	116,655	3,454,279	8,215	191,712	768,529	19,444,226	1950
1951	25	156,461	5,815,837	441,605	9,419,295	233,468	3,922,457	88,511	2,200,801	11,275	281,794	931,320	21,640,184	1951
1952	20	114,707	5,153,778	817	51,026	292,318	5,147,662	172,910	4,079,424	7,869	178,654	588,621	14,610,544	1952
1953	22	164,848	6,041,592	440,860	8,239,810	144,542	1,761,160	54,901	1,012,224	3,974	106,937	809,125	17,161,723	1953
1954	21	504,362	16,463,317	1,049	26,944	266,931	3,459,476	27,081	776,561	4,861	145,803	804,284	20,872,101	1954
Aver.	20	158,701	5,802,472	239,375	4,338,013	204,533	3,651,648	69,199	1,752,208	11,055	323,920	682,955	15,868,463	Aver

NOTE: – Figures for the last year in this table are from "Pacific Fisherman's" compilation. Those for previous years have been revised from official data. Fish from British Columbia are included; fish from Alaska omitted.

• *COLUMBIA IMPAIRED* — Any doubt that something serious has happened to the "August run" on the Columbia River faded in 1954 when for the third successive season this former great movement of salmon was reduced to a brief bulge.

The August fishing, which has been the production mainstay of the Columbia River fishery volume-wise for a considerable number of years, lately has dropped seriously, and it remained for 1954 to supply new evidence which may be taken as proof that this important run has suffered severe damage.

Observers note that the initial sharp decline in the August run followed by just about one salmon generation the development of the intense sport fishery for salmon on the Columbia River *during the closed period* established to provide spawning escapement to maintain this run.

When the fishery was confined to commercial operations, the complete closure from Aug. 25 to Sept. 10 provided spawning escapement adequate to maintain the August run. Then there arose an intense sport fishery, concentrated during this period of commercial closure. Just about four years after this closed-season sport fishery became big business—in some respects more commercialized than the commercial fishery itself—the August run

COLUMBIA RIVER CANNED SALMON PACK

Salmon canning on the Columbia River commenced in 1866, with a pack of about 4,000 cases valued at $64,000; but no segregation by species is available prior to 1889. Production increased rapidly to a peak of 629,400 cases in 1883, valued at $3,147,000; then fell to 356,000, valued at $2,124,000, in 1887; the average output for intervening years being 351,091 cases, valued at $2,066,227. The "average" figures at bottom of table are for ten years through 1950.

YEAR	# of Canneries	CHINOOK		BLUEBACK		SILVERSIDE		CHUM or KETA		STEELHEAD TROUT		TOTAL		YEAR
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888	28	...	...	...	...	...	...	...	...	...	...	372,477	$2,234,862	1888
1889	21	266,697	$1,600,182	17,797	$101,051	...	...	...	...	25,391	$108,587	309,885	1,809,820	1889
1890	21	335,604	1,946,087	57,345	290,069	...	...	...	...	42,825	171,300	435,774	2,407,456	1890
1891	22	353,907	2,038,566	15,482	284,242	...	...	...	...	29,564	118,156	398,953	2,440,964	1891
1892	24	344,267	1,996,388	66,547	372,909	4,176	$20,880	...	...	72,348	288,892	487,338	2,679,069	1892
1893	24	288,773	1,559,374	30,459	152,295	29,107	116,428	2,311	$6,933	65,226	260,904	415,876	2,095,934	1893
1894	24	351,106	1,896,976	43,814	224,430	42,758	171,032	...	...	52,422	209,688	490,100	2,501,126	1894
1895	24	444,909	2,428,658	18,015	86,523	99,601	329,683	22,493	62,591	49,678	203,542	634,696	3,110,997	1895
1896	24	370,943	1,804,511	16,983	81,518	44,108	141,145	...	...	49,663	198,652	481,697	2,261,826	1896
1897	22	432,753	1,804,221	12,972	51,888	60,850	197,762	...	...	46,146	165,440	552,721	2,219,311	1897
1898	23	329,566	1,490,394	66,670	300,015	65,431	222,465	...	...	26,277	60,352	487,933	2,073,226	1898
1899	17	255,824	1,458,175	23,969	134,723	29,608	112,055	11,379	33,836	11,994	39,186	332,774	1,777,975	1899
1900	16	262,392	1,821,258	13,162	92,184	44,925	202,163	17,696	63,706	20,597	102,985	358,772	2,282,296	1900
1901	...	...	...	...	...	...	...	...	...	...	...	390,183	1,942,660	1901
1902	14	270,580	1,428,743	17,037	86,465	10,532	44,732	10,401	41,604	8,593	42,965	317,143	1,644,509	1902
1903	16	301,762	1,610,614	8,383	42,867	12,181	49,869	10,000	37,500	7,251	36,255	339,577	1,777,105	1903
1904	20	320,378	1,944,690	12,911	78,048	31,254	118,357	20,693	52,691	9,868	48,892	395,104	2,242,678	1904
1905	19	327,106	1,962,636	7,768	46,608	26,826	114,011	25,751	65,206	9,822	49,110	397,273	2,237,571	1905
1906	19	311,334	1,868,007	7,816	54,712	41,446	124,338	27,802	69,505	6,500	32,500	394,898	2,149,062	1906
1907	19	258,433	...	5,504	...	31,757	...	22,556	...	5,921	...	324,171	1,763,490	1907
1908	14	210,096	...	8,581	...	31,432	...	16,884	...	10,726	...	253,341	1,380,708	1908
1909	15	162,131	1,203,546	27,908	214,561	42,178	185,070	24,542	57,115	17,283	99,796	274,087	1,760,088	1909
1910	15	244,285	1,882,137	6,234	34,287	68,922	363,688	66,538	232,883	5,436	31,203	391,415	2,544,198	1910
1911	15	405,862	2,204,185	5,988	47,904	79,416	549,478	53,471	203,198	8,594	47,399	543,331	3,052,164	1911
1912	15	220,317	1,988,526	8,210	85,384	31,842	177,248	18,699	46,590	6,958	22,108	285,666	2,319,856	1912
1913	15	192,116	1,664,670	11,152	93,677	40,969	175,412	13,303	29,486	8,939	49,142	266,479	2,012,387	1913
1914	17	289,464	2,573,502	35,311	376,924	69,769	380,666	49,285	205,541	10,792	59,356	454,621	3,595,989	1914
1915	19	406,486	3,694,361	5,459	56,707	33,336	173,234	86,530	251,632	26,723	129,358	558,534	4,305,292	1915
1916	20	395,166	3,572,203	3,790	27,288	52,084	335,114	77,766	307,483	18,999	118,987	547,805	4,361,075	1916
1917	20	403,637	5,023,529	7,968	111,552	64,299	700,680	53,659	386,596	23,783	292,538	555,218	6,530,939	1917
1918	20	400,952	5,222,983	37,833	605,328	98,145	1,072,843	29,846	215,669	24,605	350,071	591,381	7,466,924	1918
1919	21	392,125	5,455,550	7,268	145,360	90,728	1,142,767	75,493	541,989	14,414	205,254	580,028	7,490,920	1919
1920	22	420,467	5,661,580	2,617	62,808	27,024	257,806	18,792	99,564	12,645	116,859	481,545	6,198,617	1920
1921	20	267,582	3,761,321	6,045	120,900	34,381	233,372	4,821	19,791	10,142	68,266	323,241	4,203,649	1921
1922	23	237,230	3,724,393	30,743	614,860	90,437	633,935	8,844	47,130	24,920	186,675	392,174	5,206,993	1922
1923	23	289,586	4,967,657	38,309	766,180	101,554	673,954	25,508	135,168	25,968	187,965	480,925	6,730,924	1923
1924	22	293,716	4,508,236	7,366	129,840	112,308	992,865	57,748	303,356	29,734	285,107	500,872	6,219,404	1924
1925	21	250,809	5,423,129	5,650	106,220	113,554	1,488,855	55,812	272,398	14,637	177,866	540,452	7,468,468	1925
1926	21	295,302	4,744,131	21,736	434,720	97,142	1,027,597	32,853	181,216	32,690	356,418	479,723	6,744,064	1926
1927	22	339,446	5,559,202	6,887	147,378	74,879	585,816	68,449	425,240	30,148	311,070	519,809	7,028,705	1927
1928	24	251,404	4,355,218	4,814	100,131	49,136	478,355	124,953	747,619	16,339	222,139	446,646	5,903,462	1928
1929	21	242,938	4,234,214	10,072	181,296	90,684	917,561	54,619	314,928	23,804	257,025	422,117	5,905,024	1929
1930	21	281,346	4,092,810	9,823	194,460	110,430	1,156,042	11,371	43,324	16,535	171,541	429,505	5,658,177	1930
1931	20	294,798	3,754,929	4,125	66,000	39,268	247,878	3,518	11,754	11,990	110,429	353,699	4,191,000	1931
1932	15	216,511	2,023,390	2,795	33,540	46,492	280,853	17,261	44,879	13,132	91,924	296,191	2,474,586	1932
1933	14	251,157	2,719,303	6,921	96,894	36,430	263,190	24,398	107,351	17,805	142,440	336,711	3,329,178	1933
1934	13	251,068	2,630,152	6,869	82,428	65,428	536,731	24,455	92,608	14,901	121,000	362,721	3,462,919	1934
1935	10	205,870	2,479,450	1,302	17,619	95,184	725,868	15,495	59,499	14,888	122,846	332,739	3,405,282	1935
1936	11	220,188	2,964,058	9,837	137,718	36,541	303,263	30,597	110,149	19,282	317,867	316,445	3,833,055	1936
1937	11	291,343	4,256,819	7,526	126,436	69,801	725,996	30,592	138,309	17,568	189,734	416,830	5,437,294	1937
1938	10	173,892	2,707,267	13,889	260,369	67,257	630,364	37,704	143,275	15,248	152,480	307,990	3,893,755	1938
1939	10	207,595	3,336,206	5,301	102,359	69,082	730,549	15,201	75,416	25,293	320,025	322,472	4,666,141	1939
1940	11	244,570	3,785,681	23,974	471,530	59,737	623,681	25,282	125,420	33,436	373,514	386,999	5,379,826	1940
1941	11	328,609	5,558,254	33,070	661,400	35,727	481,834	83,144	572,994	33,162	453,502	513,712	7,727,984	1941
1942	12	274,750	5,692,929	23,256	625,230	26,541	497,070	118,051	911,538	21,803	429,678	464,401	8,156,445	1942
1943	11	130,373	3,094,505	2,880	77,586	5,707	61,065	12,439	112,421	16,261	323,874	167,660	3,669,451	1943
1944	10	163,047	3,714,591	758	20,342	12,210	137,072	1,525	11,590	19,222	375,838	196,762	4,259,433	1944
1945	8	132,014	3,095,228	112	3,001	22,154	244,060	1,032	8,848	19,314	363,068	*175,670	3,723,456	1945
1946	11	159,872	5,940,740	9,726	369,588	6,883	206,490	†15,617	247,392	17,373	510,720	†209,471	7,274,939	1946
1947	10	250,318	8,613,000	15,079	664,000	42,789	1,278,000	17,121	252,000	21,999	650,000	347,306	11,457,000	1947
1948	12	235,310	9,342,000	3,339	147,000	39,425	1,099,000	26,201	498,000	19,977	615,000	324,242	11,701,000	1948
1949	12	133,347	3,682,000	** 6,630	225,000	16,740	415,000	12,386	186,000	9,019	221,000	178,122	4,729,000	1949
1950	11	136,635	4,964,201	3,630	146,687	29,507	939,296	12,952	234,457	10,266	360,830	192,990	6,645,471	1950
1951	10	143,046	5,497,305	4,552	186,543	29,099	841,234	11,566	192,850	14,862	469,615	203,125	7,187,547	1951
1952	9	95,353	3,506,181	9,824	413,774	29,701	875,380	13,759	214,837	18,979	612,987	167,616	5,623,159	1952
1953	8	97,320	3,267,303	3,014	127,791	24,219	676,237	9,775	130,062	19,420	616,621	153,199	4,823,332	1953
1954	8	71,838	2,478,987	8,259	249,878	12,736	299,760	12,973	197,595	12,557	407,099	118,363	3,633,319	1954
Aver.	10	145,505	5,038,694	6,416	253,326	25,324	687,445	13,338	216,204	16,376	482,694	207,010	6,679,822	Aver.

NOTES: – "Average" is for the last ten years. Figures for the last year in this table are from PACIFIC FISHERMAN's compilation. Those for previous years have been revised from official data.

1954-CANNED SALMON PACK OF COASTAL AREAS-1954

	COMPANY	CANNERY LOCATION	CHINOOK			BLUEBACK or SOCKEYE			SILVER or COHO			CHUM	GRAND	
			1-lb. Talls	½-lb. Flats (8 doz.)	Total (Full Cases)	½-lb. Flats (8 doz.)	¼-lb. Flats (48-lbs)	Total (Full Cases)	1-lb. Talls	½-lb. Flats (8 doz.)	Total (Full Cases)	1-lb. Talls	TOTAL (Full Cases)	
	WASHINGTON													
1	Mohawk Packing Co.	Moclips	5	...	5	(1)2,990	...	2,990	58	...	58	2,750	5,803	1
2	Nelson Crab & Oyster Co.	Tokeland	...	...	...	...	...	...	...	...	...	1,000	1,000†	2
3	Strand Fisheries	Hoquiam	...	...	...	...	1,250	1,250	...	...	...	...	1,250	3
4	West Coast Fish Co.	Aberdeen	...	...	...	...	...	...	...	...	...	8,005	8,005	4
	TOTAL WASHINGTON COAST		5	...	5	2,990	1,250	4,240	4 58	...	58	11,755	16,058	
	CALIFORNIA													
1	Tom Lazio Fish Co.	Eureka	...	237	237	...	...	...	...	..77	77	..77	314	1
	TOTAL COASTAL AREAS		5	237	237	2,990	1,250	4,240	58	77	135	11,755	16,372	

NOTES: – No canned salmon pack reported on Oregon coast in 1954. Some Puget Sound Sockeyes, custom-canned by Washington Fish Co., Aberdeen, for Whiz Fish Products Co., are included in the latter company's pack in the Puget Sound tabulation. (1) Includes 254 full cases of "tips". † Estimated.

slipped into swift decline. This sport catch, taken during the closure provided for escapement, seems to be having disastrous effect upon the resource.

● *REHABILITATION* — Important undertakings, involving the expenditures of important money, and the application of principles developed by biological research and engineering, marked 1954 on Puget Sound and the Columbia River, where state authorities, with the backing of the Federal government in some instances, are fighting a bitter battle to rehabilitate the salmon resources impaired by dams, diversions, pollution, irrigation and natural barriers, as well as by the heavy fishing demand of sports fishermen as well as commercial fishermen.

Intensive studies of the effects of dams of varying characteristics upon the downstream migrating fingerling salmon, conducted largely by the Washington state and Sockeye commission staffs, in that year yielded information which points the way to reduction of the adverse effect of dams, in existing structures as well as future construction.

Major fishway construction will open to spawning salmon some extensive stream systems from which they have been barred by natural obstructions. At the cost of many hundreds of thousands of dollars, in part derived from Federal sources, Washington fishways were built in 1954 on the Klickitat and Wind River, tributaries of the Columbia; while Washington State built fishways which open to salmon the Deschutes River, falling into southern Puget Sound, and the Stillagaumish south fork, which enters the northern Sound.

CANNED SALMON PACK OF COASTAL AREAS

Year	WASHINGTON					OREGON				California	GRAND TOTAL Full Cases	Year
	Blueback	Chinook	Silver & Steelhead	Chum & Pink	Total Full Cases	Chinook	Silver & Steelhead	Chum	Total Full Cases	TOTAL (Full Cases)		
1919	1,244	5,029	17,174	39,995	63,442	26,089	43,114	7,081	76,284	22,766	162,492	1919
1920	235	921	405	26	1,587	30,571	4,490	...	35,061	21,055	57,703	1920
1921	2,590	2,010	4,897	5,281	14,778	15,632	122	...	15,754	10,376	40,908	1921
1922	26,491	2,573	13,354	10,939	53,357	12,270	11,769	2,248	26,287	9,700	89,344	1922
1923	10,454	1,794	5,172	38,523	55,943	10,526	22,606	14,279	47,411	6,000	109,354	1923
1924	6,778	1,506	5,493	32,760	46,537	16,351	30,449	14,603	61,403	12,936	120,876	1924
1925	4,821	3,810	6,679	35,342	53,276	22,404	18,872	14,410	55,686	22,339	131,301	1925
1926	2,720	2,441	3,182	17,377	25,720	19,130	7,033	4,838	31,001	11,537	68,258	1926
1927	5,260	4,195	1,983	25,452	36,890	17,456	13,390	181	48,619	15,585	101,094	1927
1928	2,000	52	415	34,109	37,031	5,411	8,136	5,500	19,047	4,237	60,515	1928
1929	4,449	213	1,158	35,699	41,519	4,700	2,313	8,047	15,060	2,774	59,353	1929
1930	21,536	49	2,160	11,846	35,519	11,252	981	...	12,233	5,171	52,995	1930
1931	8,476	61	501	11,225	20,263	4,234	...	8,600	12,834	12,280	45,377	1931
1932	14,263	308	1,152	22,236	37,959	8,524	...	...	8,524	780	47,263	1932
1933	6,754	845	424	7,735	15,758	7,150	...	500	7,650	2,149	25,557	1933
1934	3,323	2,344	1,453	15,370	22,490	4,100	...	2,000	6,100	820	29,410	1934
1935	6,217	3,685	10,009	7,351	27,262	2,500	...	2,400	4,900	874	33,036	1935
1936	705	1,137	1,883	16,038	19,763	...	...	9,500	9,500	...	29,263	1936
1937	2,865	176	82	7,932	11,055	2,400	...	...	2,400	147	13,602	1937
1938	1,559	...	...	13,173	14,732	...	...	...	...	...	14,732	1938
1939	...	...	...	6,381	6,381	...	...	2,200	2,200	...	8,581	1939
1940	138	23	504	9,142	9,807	647	643	1,000	2,290	...	12,097	1940
1941	24	...	...	27,428	27,452	1,000	2,500	5,400	8,900	1,125	37,477	1941
1942	1,235	...	...	17,492	18,727	1,450	200	9,000	10,650	...	29,377	1942
1943	...	100	402	5	507	1,038	...	...	1,038	767	2,312	1943
1944	...	750	161	132	1,043	1,961	2,567	...	4,528	864	6,435	1944
1945	...	4,005	2,096	5,287	11,388	...	...	...	...	2,755	14,143	1945
1946	3,694	2,398	5,185	17,225	28,502	16,104	4,806	663	21,573	5,034	55,109	1946
1947	12,450	3,014	13,023	10,060	38,547	7,383	8,379	...	15,762	13,917	68,226	1947
1948	4,021	1,805	12,060	8,642	26,528	7,553	7,052	...	14,605	11,681	52,814	1948
1949	7,577	419	3,856	6,285	18,137	827	55	...	882	...	19,019	1949
1950	3,969	2,755	8,034	12,902	27,660	3,190	4,817	...	8,007	1,801	35,667	1950
1951	2,643	1,495	4,161	12,597	20,896	500	50	...	550	707	22,153	1951
1952	877	1,807	5,267	15,000	22,951	184	1,0111	...	1,195	2,042	26,188	1952
1953	455	642	320	11,141	12,558	. .	. .	...	...	436	12,994	1953
1954	4,240	5	58	11,755	16,058	. .	. .	...	. .	314	16,372	1954
Average	3,992	1,834	5,406	11,089	22,322	3,574	2,617	66	6,257	3,868	32,268	Average

NOTE: – All figures indicate "Full Cases" on a common basis of 48 lbs. net, equivalent to 96 Halves or 192 Quarters; the bulk of the actual packing being 1-lb. Talls and ½-lb. Flats. For some years a few Puget Sound Pinks are included with Chums in the Washington Coast pack. A few Steelheads are sometimes canned in these areas. Where they occur, they are included with Silvers. The California pack consists almost entirely of Chinooks, but sometimes includes a few Silvers "Average" is for the last ten years.

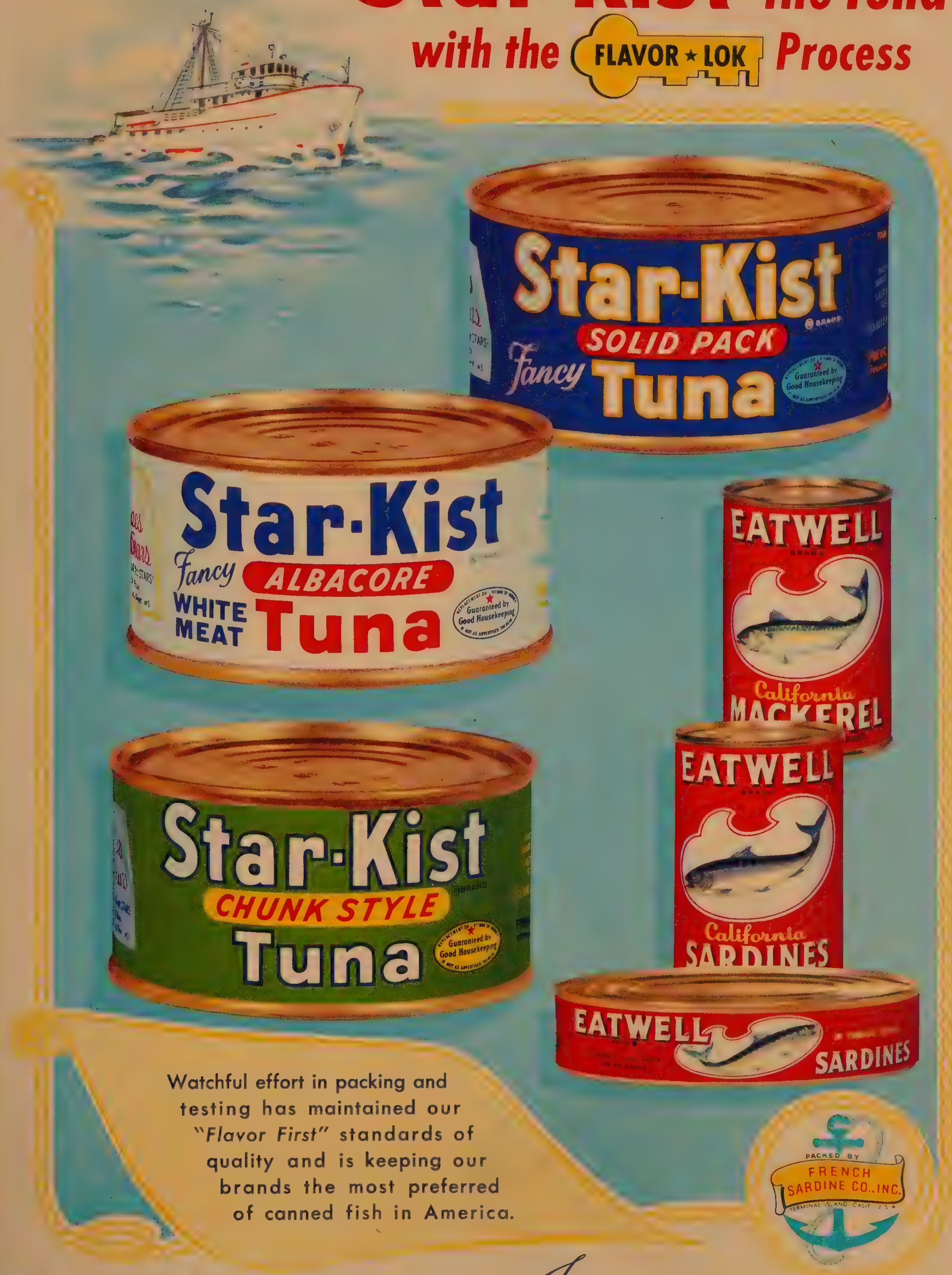
IWAO FUJITA of Japan, chairman of the International North Pacific Fisheries Commission; vice chairman, Japan Fisheries Association; chairman, Japan Whaling Association.

DONALD P. LOKER, of California, president of the California Fish Canners Association; and vice president of Star-Kist Foods, Inc.

J. E. BRENNAN of Seattle, president of the Northwest Salmon Canners Association; president of the Haines Packing Co., Haines, Alaska.

HAROLD HELLAND of British Columbia, member of the International Pacific Halibut Commission, and president of the Prince Rupert Fishing Vessel Owners Association.

Star-Kist – the Tuna with the FLAVOR ★ LOK Process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J. J. BOGDANOVICH
PRESIDENT

TERMINAL ISLAND, CALIFORNIA

1954-UNITED STATES TUNA PACK-1954

(Cases)

REGION	Albacore	Lightmeat	Standard Cases Total True Tuna	Bonito and Yellowtail	Grand Total
California					
San Diego	435,275	2,872,794	3,308,069	48,813	3,356,882
San Pedro	1,258,402	4,808,472	6,066,874	28,057	6,094,931
Monterey and San Francisco	*	*	*	*	*
Total California	1,693,677	7,681,266	9,374,943	76,870	9,451,813
Hawaii, Samoa, Washington and Oregon combined lightmeat tuna	...	633,850**	633,850	...	633,850
Oregon	419,820†	...	419,820	...	419,820
Washington	50,376	...	50,376	...	50,376
Total Pacific outside California	470,196	633,850	1,094,046	...	1,094,046
Total Pacific Coast	2,163,873	8,315,116	10,468,989	76,870	10,545,859
Total Atlantic Coast	137,500‡	137,500‡	275,000‡	...	275,000
GRAND TOTAL U.S. TUNA	2,301,373	8,452,616	10,743,989	76,870	10,820,859

* Tuna canned in San Francisco and Monterey in 1954 is included with Southern California districts.

** Lightmeat tuna total for Hawaii, Samoa, Washington and Oregon includes minor quantities of Albacore.

† Oregon Albacore includes 1,040 cases canned in Northern California. Atlantic Coast figures include tuna canned in Puerto Rico.

‡ Total Atlantic production for 1954 is estimated from official sources. Its segregation as to grade is arbitrary.

American tuna canning continued its steady climb in 1954, passing the 10-million-case for the first time, and stretching far beyond it.

Despite record volume of production, the year 1954 was laden with problems for the tuna industry, which was obliged to readjust prices for fish and product as well.

● Ten million cases of canned tuna were packed by the American industry in 1954, which passed this mark for the first time in its 52 years of operation.

Gains were registered in all areas of tuna canning, but it remained for California to produce the largest increase, packing 9,450,000 cases.

The national pack of 10,820,000 cases of canned tuna, taken on the basis of standards cases of 48 No. ½ tuna cans, and using the U.F. Fish and Wildlife Service conversion factors, figures out to 216,400,000 lbs.

On this basis tuna ranks first among American canned fish in 1954, leading the canned salmon pack of 200,875,000 lbs.

Trends within the American tuna pack continued along lines indicated in former years. For example, the Los Angeles Harbor area worked farther than ever ahead of San Diego—where formerly they ran neck-and-neck, or San Diego led slightly.

Skipjack continued to increase in importance as a component of the lightmeat tuna pack—a gain in which it was aided by the remarkable popularity of chunk style tuna.

Albacore production by American fishermen fell somewhat below recent years, and this was reflected in a decline in the total pack of this species, despite active imports.

Volume of foreign Albacore entering the United States might have been larger in 1954 except for Japanese summer fishing which fell far below expectations.

● *SUPPLY and DEMAND* — California's tuna industry completed 1954 as a year of attempt to adjust supply with demand, and entered 1955 focusing sales attention on tuna and its varied uses on the menus of the American home.

It was a year of change, and of fluctuation in tuna prices, raw and

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FINEST 1/3 OF
THE TUNA!

At our new million-dollar "Show Cannery of the West"—we pack only the finest one-third of our tuna under nationally-advertised BREAST-O'-CHICKEN Brand.

Using only the prime portions of selected top-grade tuna, we can assure buyers that BREAST-O'-CHICKEN offers them only the best-o'-tuna.

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Guaranteed by Good Housekeeping

BREAST-O'-CHICKEN TUNA, INC.
SAN DIEGO, CALIFORNIA

1954 -IMPORTS OF FRESH AND FROZEN TUNA- 1954

Pounds

	Nov. '53	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
JAPAN -Total	1,606,854	1,660,618	3,969,105	6,195,204	5,658,017	10,308,808	12,445	13,023	10,837	15,193	5,018	7,254	29,462,376
Albacore: Fresh or Froz.	...	...	2,403,093	4,429,079	3,190,227	6,210,817	4,559	4,368	7,617	11,263	4,078	2,936	16,268,037
Other Tuna: Fresh or Froz.	1,606,854	1,660,618	1,566,012	1,766,125	2,467,790	4,097,991	7,886	8,655	3,220	3,930	940	4,318	13,194,339
PERU-TOTAL	399,496	...	2,250,469	389,136	2,847,150	910,713	2,036	2,061	329	4,063	2,024	...	6,807,477
Albacore: Fresh or Froz.	...		...	...	...	...	...	...	...	...	...	...	.....
Other Tuna: Fresh or Froz.	399,496	...	2,250,469	389,136	2,847,150	910,713	2,036	2,061	329	4,063	2,024	...	6,807,477
COSTA RICA Total:	146,000	...	...	...	...	110,000	...	...	135	283	...	...	256,418
Albacore, F.orF.	...	...	...	...	...	...	...	...	...	...	...	...	.....
Other Tuna: Fresh or Froz.	146,000	...	...	...	...	110,000	...	...	.135	283	...	...	256,418
ECUADOR Total:	...	120,000	...	19,000	...	...	...	...	444	220	163	...	139,827
Albacore, F.orF.	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuna: Fresh or Froz.	...	120,000	...	19,000	...	...	...	...	444	220	163	...	139,827
OTHERS-Total	108,263	366,449	228,838	...	182,000	656,848	...	24	880	237	128	437	1,544,104
Albacore, F. orF	...	...	...	...	...	...	...	1	6	8	2	2	19
Other Tuna: Fresh or Froz.	108,263	366,449	228,838	...	182,000	656,848	...	23	874	229	126	435	1,544,085

canned. First of all, the two organizations representing boat owners—bait boats and seiners—succeeded in securing in January, 1954, an increase in the price of Yellowfin and Skipjack from $320 to $350 a ton, and $280 to $310.

Subsequent rises in the case price took place, the first early in 1954, the later in mid-summer. Inventories grew larger, and production from the American fleet, coupled with increasing amounts of imports of frozen tuna, largely from Japan, contributed to a very heavy pack.

California Pack of Canned Tuna and Related Fishes

YEAR	Cases									YEAR
	SAN PEDRO DISTRICT				SAN DIEGO DISTRICT				GRAND TOTAL	
	Light Tuna	White Tuna	Other Tuna*	TOTAL	Light Tuna	White Tuna	Other Tuna*	TOTAL		
1912	....	....	....	....	....	....	....	....	75,900**	1912
1913	....	....	....	....	....	....	....	....	77,500**	1913
1914	....	....	....	....	....	....	....	....	217,000**	1914
1915	....	....	....	....	....	....	....	....	237,365**	1915
1916	315,880	82,593	6,457	404,930	71,062	13,593	245	84,900	489,830	1916
1917	382,273	118,769	11,928	512,970	140,563	17,261	12,746	170,570	683,540	1917
1918	228,241	82,801	87,110	398,152	50,129	....	73,072	123,201	521,353	1918
1919	487,812	144,383	65,008	697,203	62,318	47,869	24,572	134,759	831,962	1919
1920	668,012	‡	1,534	669,546	167,633	‡	1,623	169,256	838,802	1920
1921	72,410	255,194	...	327,604	27,869	82,157	48	110,074	437,678	1921
1922	334,733	166,496	3,651	504,880	129,349	27,269	23	156,641	661,521	1922
1923	312,187	209,591	17,803	539,581	224,315	88,014	4,869	317,198	856,779	1923
1924	134,497	278,855	113,401	526,753	27,207	106,958	11,382	145,547	672,300	1924
1925	323,422	358,940	116,149	798,511	187,909	95,007	11,936	294,852	1,093,363	1925
1926	380,074	43,660	150,185	573,919	188,649	14,578	56,280	259,507	833,426	1926
1927	381,541	105,598	231,751	718,890	436,700	20,916	30,368	487,984	1,206,874	1927
1928	473,868	99,093	128,374	701,335	473,704	658	21,581	495,943	1,197,278	1928
1929	394,819	130,212	146,104	671,135	700,020	2,426	55,284	757,730	1,428,865	1929
1930	658,728	143,748	130,159	932,635	950,461	1,783	35,510	987,754	1,920,389	1930
1931	394,668	144,796	85,653	625,117	543,536	177	10,303	554,016	1,179,133	1931
1932	385,399	52,215	88,112	525,726	606,608	....	15,655	622,263	1,161,151	1932
1933	341,290	49,391	71,388	462,069	877,124	....	52,980	930,104	1,392,173	1933
1934	714,546	82,182	116,526	913,254	982,547	....	31,509	1,014,056	1,927,310	1934
1935	808,578	107,501	230,772	1,139,851	1,222,894	4,648	109,323	1,336,875	2,476,727	1935
1936	840,151	53,849	153,107	1,047,107	1,392,531	35	147,509	1,540,075	2,587,182	1936
1937	881,208	83,123	260,016	1,224,346	1,680,720	8,036	105,211	1,793,967	3,018,314	1937
1938	697,804	265,034	233,766	1,196,604	1,282,571	24,355	95,202	1,402,128	2,598,732	1938
1939	982,225	281,666	262,367	1,526,258	1,633,113	46,372	70,917	1,750,402	3,305,297	1939
1940	1,110,181	122,484	315,778	1,548,443	2,045,071	19,304	251,623	2,315,998	3,868,394	1940
1941	554,782	73,024	235,910	863,716	1,372,594	10,145	274,643	1,657,382	2,530,169	1941
1942	594,056	128,670	97,901	820,627	1,164,524	104,578	146,234	1,415,336	2,242,220	1942
1943	554,928	187,052	234,382	976,362	699,099	227,347	394,265	1,320,711	2,308,415	1943
1944	805,081	125,632	270,821	1,201,534	760,263	307,806	537,889	1,605,958	2,809,177	1944
1945	825,377	148,286	503,118	1,476,781	1,518,646	329,251	128,686	1,976,583	3,456,442	1945
1946	1,170,791	141,629	646,615	1,959,035	2,023,870	233,622	332,529	2,590,021	4,555,397	1946
1947	1,317,016	104,726	733,587	2,155,329	2,576,804	145,300	418,797	3,140,911	5,357,498	1947
1948	1,264,615	290,811	771,182	2,326,608	3,096,315	462,255	406,248	3,964,818	6,346,952	1948
1949	810,362	289,063	1,458,374	2,557,799	2,967,150	535,013	449,413	3,951,576	6,590,396	1949
1950	1,024,410	586,683	2,673,668	4,284,761	1,412,220	482,894	1,961,297	3,856,411	8,141,172	1950
1951	3,143,863	580,377	77,229	3,801,469	3,015,164	409,819	10,260	3,435,243	7,530,264	1951
1952	4,204,207	1,002,020	196,453	5,402,680	1,742,124	626,944	34,234	2,403,302	8,102,842†	1952
1953	4,042,121	1,366,103	100,252	5,508,476	2,139,393	655,989	69,866	2,865,248	8,624,109†	1953
1954	4,808,472	1,258,402	28,057	6,094,931	2,872,794	435,275	48,813	3,356,882	9,451,813†	1954

† Minor quantities of tuna canned in Monterey, San Francisco and elsewhere in northern California have been included in the grand total. Figures are for standard cases of 48 havles or equivalent. Figures for final year are temporary totals from official sources. Data for previous years have been corrected according to official statistics of the California Department of Fish and Game.

* "Other Tuna" through 1950 includes Bonito, Yellowtail, Flakes and Tonno. For 1951 and thereafter this column includes only Yellowtail and Bonito, Flakes and Tonno being included in other columns.

** No Segregation available prior to 1916. ‡ Included under other heads.

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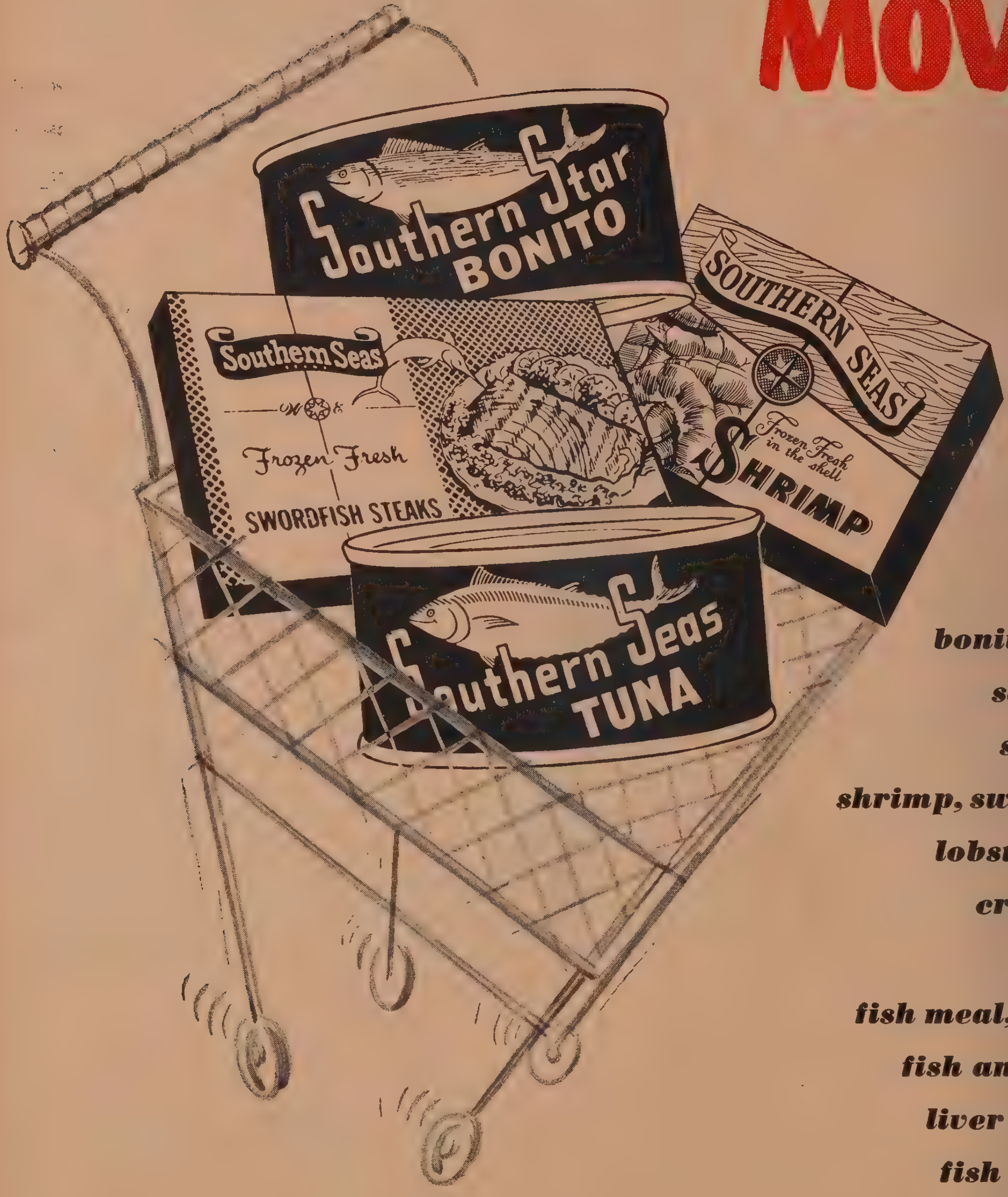
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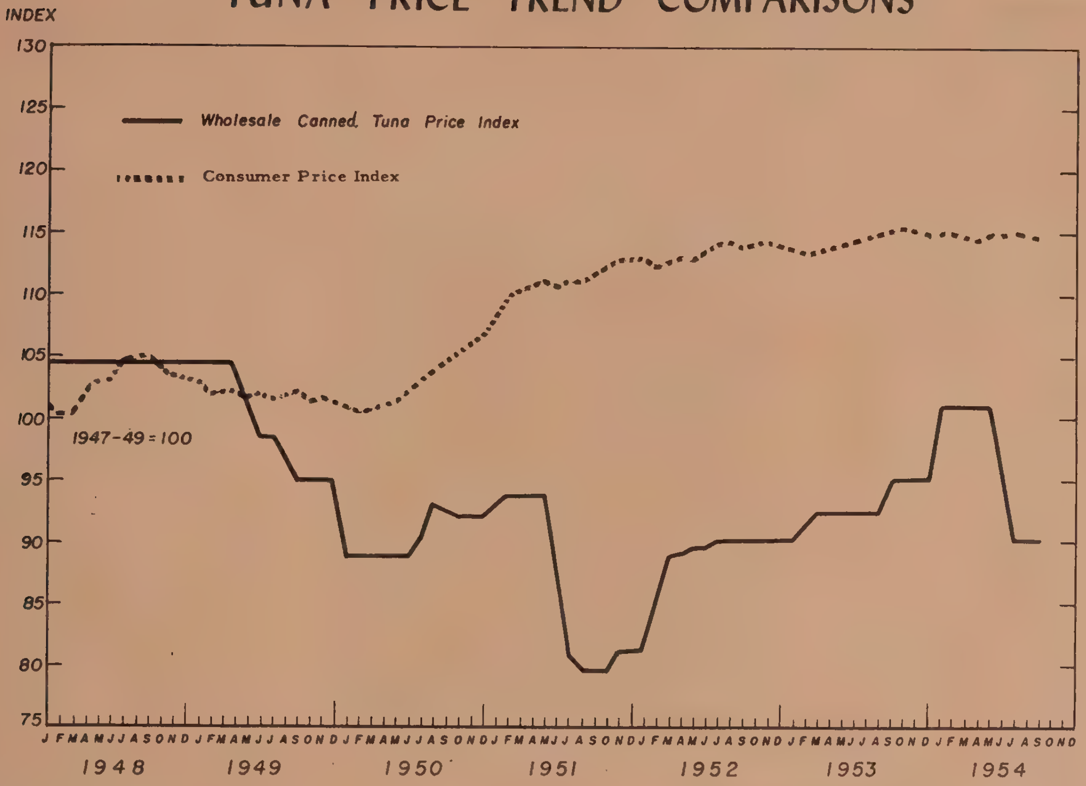
TUNA PRICE TREND COMPARISONS



In late summer boat owners accepted a reduction in fish price of the two major species to $330 for Yellowfin and $290 for Skipjack. These prices remained in effect through the end of the year. Of importance during the year was the fact that, while the tonnage of Skipjack delivered to California canneries increased, Yellowfin declined.

Boat owners found their clippers serving as floating freezers for tuna which the canneries declared they could not handle immediately on arrival in port. Some boats were required to wait a month and more before the tuna was discharged.

● *FROZEN IMPORTS* — Frozen tuna for San Pedro and San Diego canneries as 1954 ended were estimated to amount to more than 34,000 tons, largely Albacore and Yellowfin from Japan. This was a considerable increase in imported tonnage over 1953.

Tuna's year of change was further reflected in major personnel replacements in the California Fish Canners Association, Terminal Island. Roy H. Beaton, executive director for the association since 1953, retired as of February 1, 1955.

SAN DIEGO CANNED TUNA

(Cases — All Sizes)

Year	Yellowfin	Bluefin	Skipjack	Albacore	Tonno	Tuna Flakes	Yellowtail	Bonito	TOTAL
1926	96,363	2,758	85,389	14,555	40,864	4,162	10,566	4,850	259,507
1927	200,635	9,645	226,420	20,481	10,221	435	15,703	4,444	487,984
1928	287,770	46,348	130,430	658	11,783	9,156	4,755	5,043	495,943
1929	458,687	22,637	218,696	2,426	31,351	10,906	9,451	3,576	757,730
1930	739,616	6,944	185,848	1,783	17,875	18,053	4,838	12,797	987,754
1931	431,229	....	112,307	177	706	6,591	749	2,257	554,016
1932	403,050	177	203,381	....	....	4,774	668	10,213	622,263
1933	678,810	1	198,313	....	....	2,183	32,129	18,668	930,104
1934	780,066	6,683	195,798	....	....	8,100	6,100	17,309	1,014,056
1935	948,276	24,871	249,747	4,648	545	7,749	64,054	36,985	1,336,875
1936	1,074,811	22,390	295,330	35	740	14,967	95,059	36,743	1,540,075
1937	1,165,866	27,103	487,751	8,036	1,125	15,904	44,128	44,054	1,793,967
1938	1,010,814	49,840	221,917	24,355	....	17,384	43,794	34,024	1,402,128
1939	1,348,565	27,020	257,528	46,372	7,318	31,136	12,875	19,588	1,750,402
1940	1,469,428	45,867	529,776	19,304	60,138	141,861	27,621	22,003	2,315,998
1941	1,016,759	32,369	323,466	10,145	308	130,004	103,066	41,265	1,657,382
1942	545,517	28,413	590,594	104,578	....	111,096	20,965	14,173	1,415,336
1943	392,114	12,021	294,964	227,347	....	381,967	5,488	6,810	1,320,711
1944	485,796	16,473	257,994	307,806	....	530,368	3,237	4,284	1,605,958
1945	1,037,009	22,742	458,895	329,251	....	96,162	14,074	18,450	1,976,583
1946	1,549,557	28,753	445,560	233,622	....	268,767	28,965	34,797	2,590,021
1947	1,875,087	6,557	695,170	145,300	26,359	323,511	45,800	23,127	3,140,911
1948	2,364,819	1,991	729,505	462,255	....	366,828	31,362	8,058	3,964,818
1949	2,059,468	2,889	904,793	535,013	4,038	420,491	22,695	2,189	3,951,576
1950	913,458	3,300	495,462	482,894	54,988	1,898,568	3,235	4,506	3,856,411
1951	———	2,424,215*	———	370,700	58,042	584,201	———	270**	3,437,428
1952	———	1,405,292*	———	534,574	44,576	485,423	———	3,115**	2,472,980
1953	———	1,674,428	———	494,137	55,009	515,704	52,042	17,824	2,809,144

* Yellowfin, Bluefin and Skipjack not given separately.

** Yellowtail and Bonito not given separately.

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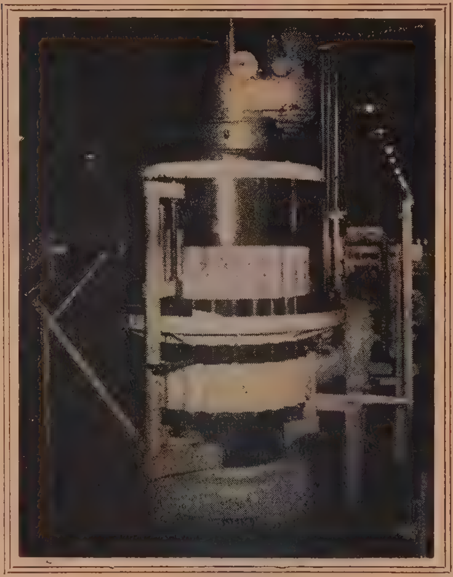

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CANNING CO.
LONG BEACH,
CALIF.

543 PICO LONG BEACH, CALIFORNIA

SAN PEDRO CANNED TUNA

(Cases)

YEAR	Yellowfin	Bluefin	Skipjack	Albacore	Tonno	Tuna Flakes	Yellowtail	Bonito	TOTAL
1926	122,968	67,525	189,581	43,660	90,689	11,786	8,374	39,336	573,919
1927	185,423	40,363	155,755	105,598	197,275	7,816	8,827	17,833	718,890
1928	323,813	85,994	64,061	99,093	106,038	7,577	902	13,857	701,335
1929	199,292	67,091	128,436	130,212	88,454	7,707	5,845	44,098	671,135
1930	262,278	302,660	82,282	143,748	57,110	11,508	16,505	56,544	932,635
1931	182,115	46,462	166,091	144,796	35,514	12,850	1,292	35,997	625,117
1932	275,263	8,510	101,626	52,215	42,247	11,517	2,447	31,901	525,726
1933	258,982	7,580	74,728	49,391	41,200	10,907	1,389	17,892	462,069
1934	317,846	325,350	71,350	82,182	55,163	22,402	3,716	35,245	913,254
1935	306,202	413,630	88,746	107,501	81,660	33,909	17,123	91,080	1,139,851
1936	343,234	311,987	184,930	53,849	57,797	9,906	17,069	68,335	1,047,107
1937	416,611	188,432	276,165	83,123	136,612	34,534	3,352	85,518	1,224,347
1938	273,365	273,358	151,081	265,034	67,404	47,092	27,440	91,830	1,196,604
1939	578,727	191,456	212,042	281,666	70,022	41,104	11,739	139,502	1,526,258
1940	536,391	267,343	306,447	122,484	124,094	85,459	40,861	65,364	1,548,443
1941	308,866	136,333	109,563	73,024	33,530	40,545	26,241	135,594	863,716
1942	214,391	250,685	128,980	128,670	23,479	39,880	16,427	18,115	820,627
1943	303,881	162,844	88,203	187,052	17,239	120,548	67,780	28,815	976,362
1944	341,687	357,531	105,863	125,632	15,365	234,639	16,611	4,206	1,201,534
1945	460,982	275,116	89,279	148,286	16,198	452,292	3,262	31,366	1,476,781
1946	663,814	304,248	202,729	141,629	....	558,026	15,080	73,509	1,959,035
1947	765,426	342,309	209,281	104,726	7,403	417,644	87,934	220,606	2,155,329
1948	969,732	94,190	200,693	290,811	23,009	477,769	120,257	150,147	2,326,608
1949	614,847	38,142	157,373	289,063	78,821	1,330,358	31,072	18,123	2,557,799
1950	742,815	14,786	266,809	586,683	202,368	2,456,705	10,838	3,757	4,284,761
1951	———	———	1,289,523*	437,408	104,235	1,959,227	———	22,926**	3,813,319
1952	———	———	3,203,906*	844,560	84,821	1,345,665	———	61,081**	5,540,033
1953	———	———	2,922,287	1,044,756	120,625	1,043,893	51,092	52,629	5,235,282

* Yellowfin, Bluefin and Skipjack not given separately.

** Yellowtail and Bonito not given separately.

1954 -Imports of Canned Bonito- 1954

Pounds

Countries	Nov. '53	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	Total
Peru	312, 539	776, 474	308, 498	2, 202, 555	182, 842	1, 853, 842	1, 300	948	686	605	653	522	5, 641, 140
Other Countries	1, 075	39, 763	3, 015	36,981	...	...	8	36	8	75	6	1	80, 968
Total	313, 614	816, 237	311, 513	2, 239, 536	182, 842	1, 853, 842	1, 308	98 4	694	680	659	523	5, 722, 108

Charles R. Carry, who headed the fisheries division of the National Canners Association for eight years, early in 1955 became Mr. Beaton's replacement. The year of 1954 also saw the merger of the Tuna Research Foundation with the California Canners group, and the addition of Herbert E. Davis to the staff. Donald P. Loker in September was elected to the presidency of the Association for 1954-1955.

The year of 1954 closed with seven major operations processing tuna in Southern California: California Marine Curing & Packing Co.; Franco-Italian Packing Co.; Pan Pacific Fisheries, Inc.; South Coast Fisheries, Inc.; South Pacific Canning Co.; Star-Kist Foods, Inc.; Van Camp Sea Food, Inc.; and Westgate-California Tuna Packing Co.

● *EXTENDED OPERATIONS*—StarKist Foods, Inc., expanded its fishing and canning operations to Chile and Peru during 1954, acquiring interest in several canneries and freezers in those South American countries, and sending down there to fish a fleet.

In January Van Camp Sea Food Co. leased, through the Department of the Interior, the tuna cannery at Samoa and concluded a full year of operation there, with tuna supplied by Japanese long-line vessels.

So much depends on the oil!

● The delicate flavor . . . the tempting freshness of your finest canned fish can be entrusted to Archer "S" because this clear, bland soybean oil has had every trace of odor removed by a special refining process. Also, you get the same high quality oil *every time you order*. Archer "S" *can't* vary. It's refined not in batches, but as an endless "ribbon" of oil. By streamlining refining, we are able to *streamline the cost* of Archer "S" too. Ask us for samples and prices.

Improve the Flavor... pack with

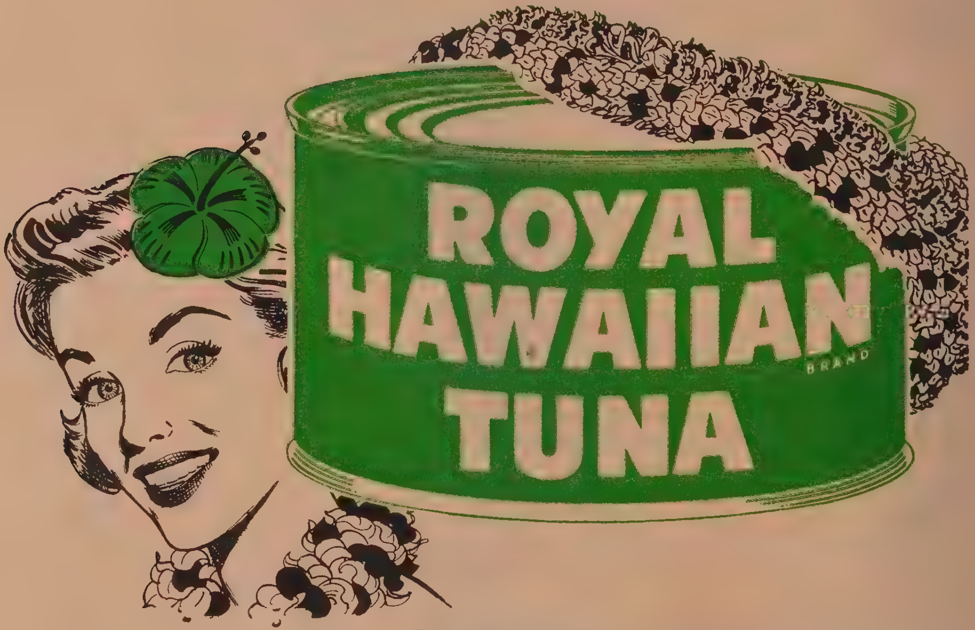
Archer "S"

America's Finest Soybean Salad Oil

Archer-Daniels-Midland company

700 Investors B'dg., Minneapolis, Minn.

Flavorful Tuna from Hawaii


ROYAL
HAWAIIAN
BRAND
TUNA

FINEST QUALITY
EXPERTLY PACKED

Hawaiian Tuna Packers, Ltd.

- Sales Office 215 Market Street, San Francisco
- Main Office and Cannery, Honolulu, Hawaii, U.S.A.

Hawaii, Oregon and Washington Lightmeat Tuna Pack

Year	Fancy and Standard			Chunks, Flakes, Grated			Grand Total	Year
	Halves 48	Quarters 96	Total Cases	Halves 48	Quarters 96	Total Cases		
1954	185,220	1,852	187,072	446,778	...	446,778	633,850	1954
1953	130,825	6,226	137,051	322,603	4,489	327,092	464,143	1953
1952	184,571	9,750	194,321	163,466	7,585	171,051	365,372	1952
1951	496,408	13,137	509,545	**	**	**	509,545	1951
1950	332,871	9,256	342,127	163,899	4,170	168,069	510,196	1950
1949	...	...	*129,848	...	...	*73,978	*202,826	1949
1948	...	...	93,335	...	...	56,738	150,073	1948
1947	...	...	60,793	...	...	33,189	93,982	1947

NOTE:– Quarters are counted on the basis of 8 dozen per case for statistical purposes, although normally packed 48 to the case.
*Figures for 1949 and years pervious are for lightmeat tuna production in Oregon and Washington only. Production for Hawaii is not included in the records for these previous years. ** Included with "Fancy and Standard". †Data for 1952 and 1953 as reported to "Pacific Fisherman" by producers. Total probably includes some Albacore, as there is some discrepancy from official figures of the U. S. F. W. S.

Further extension of American tuna fishing technique came about in 1954 when the *North American,* Capt. Sverre Jangaard, San Diego, and the *Alrita,* Capt. Lars Jangaard, ventured into the mid-Pacific for experimental long-line fishing, a project arranged by the Pacific Oceanic Fishery Investigations, based at the Hawaiian Islands.

● *NEW PRODUCTS* — Van Camp Sea Food Co. continued in 1954 its program of diversification in sales of fish products by adding tuna pie, under the *Chicken of the Sea* label; canned oysters and oyster stew, sold in part under the *Willapoint* label; dry fish solubles and a high concentrate liquid fertilizer.

Star-Kist Foods, Inc., expanded its field by the addition of *Star-Kist* tuna pie (frozen) and a pet food with the label of *Nine Lives.*

Westgate-California Tuna Packing Co. staged an aggressive sales campaign on its new cat food, *Purr,* using the red meat of tuna only.

California Marine Curing & Packing Co. introduced its *Carnation* creamed tuna in 1954, in cooperation with the Durney Co., licensee of the Carnation Company, and late in the year applied the *Carnation* label to solid and chunk packs of tuna.

American Tunaboat Association during 1954 was headed by W. Wade Ambrose; Tony Barcott was president of the Fishermen's Cooperative Assn., San Pedro. The year saw the retirement of Henry Olsen, manager of fleet operations for the Van Camp Sea Food Co., San Diego. John Real, manager of the Fishermen's Cooperative, resigned early in 1955 and Mason Case was named assistant manager of the purse seiner's group.

Contributing toward replacement of vessels lost to the tuna fleet by fire and sinkings were the two new tuna steel clippers, *Cabrillo* and *Dominator,* constructed by National Steel & Shipbuilding Co. The boats are owned by Joe and George Soares, respectively.

One of the most respected and able members of the industry passed away

Landings of Tuna in California

CAUGHT IN UNITED STATES WATERS

Year	Albacore	Bluefin	Bonito	Skipjack	Yellowfin	Total Pounds
1926	2,469,861	6,526,533	2,942,906	14,217,018	2,695,502	28,851,820
1927	4,455,372	4,898,386	1,121,476	5,802,598	595,247	16,873,079
1928	283,321	13,700,870	1,335,533	4,396,132	84,626	19,800,482
1929	269,056	7,476,370	593,886	8,032,077	199,444	16,570,833
1930	283,117	15,598,892	3,866,496	3,015,275	35,553	22,799,333
1931	37,322	2,356,775	3,014,135	11,965,616	154,024	17,527,872
1932	619,694	460,044	1,676,487	375,042	165,323	3,296,590
1933	487	324,216	1,967,244	10	6,867	2,298,824
1934	171,105	18,291,721	3,003,048	. . . . . .	19,514	21,485,388
1935	2,386,249	18,495,813	2,263,740	1,907,916	529,007	25,582,725
1936	956,771	13,808,578	2,216,679	8,456,751	767,231	26,206,010
1937	3,196,770	10,822,071	5,707,212	1,884,148	187,732	21,797,933
1938	12,492,675	16,512,262	4,684,570	2,816	10,566	33,702,889
1939	12,342,671	9,318,978	6,697,249	2,718,641	457,405	31,534,944
1940	5,587,790	18,849,968	3,553,069	2,985,111	237,527	31,213,465
1041	3,276,257	8,848,147	7,200,496	4,214,373	1,739	23,541,012
1942	7,997,293	10,331,506	861,841	217,838	1,315	19,409,793
1943	11,885,815	7,663,887	801,535	17,904	2,058	20,375,199
1944	8,091,207	16,072,045	326,175	43,676	45,373	24,578,476
1945	9,505,544	14,139,076	339,664	93,078	5,159	24,582,521
1946	9,101,600	15,529,229	582,948	1,747,060	32,653	26,993,490
1947	7,387,173	14,755,622	384,315	893,046	3,234	23,423,390
1948	10,499,390	1,693,760	214,992	319,194	593	12,727,929
1949	20,471,694	2,266,236	99,874	26,331	9,884	22,874,019
1950	38,170,909	9,339	33,456	12,421	1,461	38,227,586
1951	13,281,748	837,209	54,047	590	63	14,173,657
1952	23,092,253	907,215	7,504	534	. . .	24,007,506
1953	13,343,975	3,903,882	19,069	1,307	102	17,267,028

CAUGHT IN WATERS SOUTH OF THE INTERNATIONAL BOUNDARY

Year	Albacore	Bluefin	Bonito	Skipjack	Yellowfin	Total Pounds
1926	60	. . . .	178,698,	6,734,330	9,869,484	16,782,572
1927	123,995	. . .	596,532	28,003,362	25,338,798	54,062,687
1928	. . .	. . .	770,370	11,551,972	32,168,580	44,490,922
1929	45	50,487	2,324,658	18,974,936	37,245,480	58,595,606
1930	. . .	6,322,390	1,297,764	17,470,312	56,618,628	81,709,094
1931	. . . .	1,177,255	65,538	4,541,145	36,425,456	42,209,394
1932	. . .	611,162	1,185,799	21,261,535	36,758,087	59,816,583
1933	. . .	236,276	284,955	16,687,298	51,068,763	68,277,292
1934	. . .	66,107	199,646	14,830,194	60,893,646	75,989,593
1935	61,279	6,677,270	5,632,744	15,289,270	71,765,126	99,425,689
1936	. . .	5,116,305	4,999,237	18,549,354	77,585,413	106,250,309
1937	. . .	1,871,851	2,100,858	45,219,944	91,334,726	140,527,379
1938	29,919	1,215,769	3,155,423	22,650,815	78,277,578	105,329,504
1939	4,187	2,516,737	3,221,626	27,402,250	109,960,396	143,105,196
1940	880	1,120,300	1,737,895	53,665,044	113,660,682	170,184,801
1941	. . .	670,865	3,057,106	21,371,095	76,700,021	101,799,087
1942	2,623,900	2,513,058	788,848	38,497,344	41,166,126	85,589,276
1943	9,499,049	2,514,283	1,480,349	28,875,880	49,259,270	91,628,831
1944	9,774,659	4,259,966	492,696	29,920,701	62,190,656	106,674,678
1945	12,262,037	6,454,983	2,374,517	33,180,329	86,125,497	140,397,363
1946	8,962,447	6,502,519	5,042,700	39,130,247	126,393,035	186,033,948
1947	5,758,607	6,082,012	13,312,856	51,422,403	149,063,560	225,639,438
1948	25,926,456	4,835,047	8,920,134	58,433,122	191,635,058	289,749,817
1949	23,545,320	2,123,235	1,729,667	78,537,699	184,962,401	290,898,322
1950	23,575,512	2,729,624	662,158	124,712,144	182,222,961	333,902,399
1951	17,396,183	3,025,209	722,756	115,778,333	160,547,865	297,470,346
1952	26,697,061	3,669,470	2,135,013	84,733,692	178,376,101	295,611,337
1953	20,490,651	5,868,973	3,083,578	122,304,876	132,086,244	283,804,322

GRAND TOTAL POUNDS

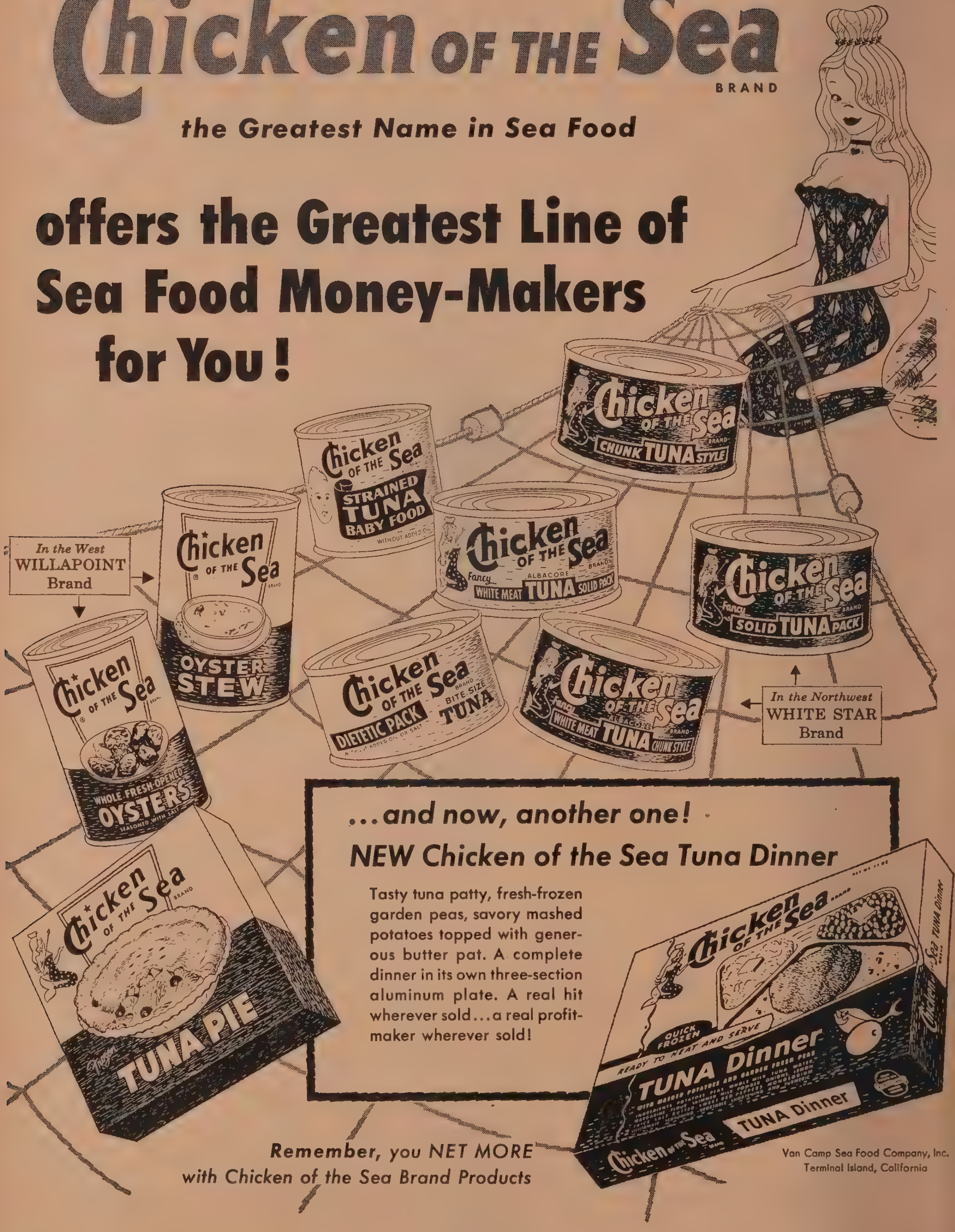
Year	Pounds	Year	Pounds	Year	Pounds
1926	45,634,392	1935	125,008,414	1944	131,253,154
1927	70,935,766	1936	132,456,319	1945	164,479,884
1928	64,291,404	1937	162,325,312	1946	213,027,438
1929	75,166,439	1938	139,032,393	1947	249,062,828
1930	104,508,427	1939	174,640,140	1948	302,477,746
1931	59,737,266	1940	201,398,266	1949	313,772,341
1932	63,113,173	1941	125,340,099	1950	372,129,985
1933	70,576,116	1942	104,999,069	1951	311,644,003
1934	97,474,981	1943	112,004,030	1952	319,618,843
				1953	301,071,350

NOTE:– All fish caught in U. S. waters were caught in California waters, except the following, which were caught off the Oregon-Washington coast: 48,030 lbs. in 1948; 30,396 lbs. in 1950; 9,150 lbs. in 1951.

Chicken OF THE Sea BRAND

the Greatest Name in Sea Food

offers the Greatest Line of Sea Food Money-Makers for You!


Chicken OF THE Sea BRAND
CHUNK TUNA STYLE
Chicken OF THE Sea BRAND
STRAINED TUNA BABY FOOD
WITHOUT ADDED OIL
Chicken OF THE Sea BRAND
OYSTER STEW
Chicken OF THE Sea BRAND
Fancy ALBACORE WHITE MEAT TUNA SOLID PACK
Chicken OF THE Sea BRAND
Fancy SOLID TUNA PACK
Chicken OF THE Sea BRAND
WHOLE FRESH-OPENED OYSTERS
SEASONED WITH SALT
Chicken OF THE Sea BRAND
DIETETIC PACK
BITE-SIZE TUNA
NO ADDED OIL OR SALT
Chicken OF THE Sea BRAND
Fancy ALBACORE WHITE MEAT TUNA CHUNK STYLE
Chicken OF THE Sea BRAND
Frozen TUNA PIE
Chicken OF THE Sea BRAND
QUICK FROZEN
READY TO HEAT AND SERVE
TUNA Dinner
TUNA Dinner

In the West
WILLAPOINT
Brand

In the Northwest
WHITE STAR
Brand

...and now, another one!

NEW Chicken of the Sea Tuna Dinner

Tasty tuna patty, fresh-frozen garden peas, savory mashed potatoes topped with generous butter pat. A complete dinner in its own three-section aluminum plate. A real hit wherever sold...a real profit-maker wherever sold!

Remember, you NET MORE with Chicken of the Sea Brand Products

Van Camp Sea Food Company, Inc.
Terminal Island, California

1954-CALIFORNIA TUNA PACK BY MONTHS-1954

(Cases)

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Total Cases 'As they run'	Total Cases Basis 48-½s
Albacore - Whitemeat														
Solid Pack	26,940	58,967	46,240	54,538	77,417	30,695	227,907	233,600	178,420	52,694	38,393	39,690	1,065,501	
Standard Pack	...	834	...	...	...	...	1,014	...	3,954	2,556	...	...	8,358	
Chunk Pack	10,854	13,944	1,702	9,045	29,999	16,605	79,659	88,667	62,797	14,269	7,089	8,154	342,784	
Grated & Flakes	6,654	15,983	9,143	12,567	20,142	10,027	62,502	67,565	59,884	18,322	10,837	12,230	305,855	
Dark & Light	170	1,427	2,490	1,242	1,012	354	2,124	1,060	960	590	1,439	...	12,868	
Tonno	...	...	...	...	...	...	...	291	24	...	12	...	327	
Unspecified	2,490	3,525	4,639	676	...	2,933	1,766	3,016	831	612	280	3,076	23,844	
Total - Whitemeat	47,108	94,680	64,214	78,068	128,570	60,614	374,972	394,199	306,870	89,043	58,050	63,150	1,759,537	1,693,677
Lightmeat -														
Solid Pack	127,469	99,825	431,642	142,082	138,340	162,803	153,428	127,482	103,771	60,303	109,849	128,220	1,785,214	
Standard Pack	8,975	10,161	3,162	10,030	5,267	15,516	26,380	27,809	38,031	26,468	368	6,672	178,839	
Chunk Pack	420,725	259,478	267,337	325,583	435,588	507,694	599,250	543,900	373,028	160,515	322,051	420,318	4,635,467	
Grated & Flakes	89,352	63,205	65,880	91,691	117,462	133,426	147,057	103,370	70,943	33,063	61,523	107,264	1,084,236	
Light & Dark	2,467	4,261	2,620	3,317	4,907	4,878	7,124	5,157	4,918	2,487	804	4,214	47,154	
Tonno	11,857	13,747	18,520	27,947	19,934	23,745	15,558	9,272	14,578	6,414	6,280	18,927	186,779	
Unspecified	48,389	36,336	68,491	18,438	13,886	16,464	23,663	28,751	15,776	3,077	6,753	22,470	302,494	
Total - Lightmeat	709,234	487,013	857,652	619,088	735,384	864,526	972,460	845,741	621,045	292,327	507,628	708,085	8,220,183	7,681,266
Bonito & Yellowtail														
Standard Pack	5,254	...	...	195	1,755	40	...	6	101	2,606	180	213	10,350	
Chunk Pack	6	...	...	143	464	323	834	100	...	265	...	...	2,135	
Grated & Flakes	6,505	4,390	183	2,232	4,034	5,266	3,851	1,469	2,089	8,889	8,423	12,772	60,103	
Total - Tuna-like	11,765	4,390	183	2,570	6,253	5,629	4,685	1,575	2,190	11,760	8,603	12,985	72,588	76,870
GRAND TOTAL	768,107	586,083	922,049	699,726	870,207	930,769	1,352,117	1,241,515	930,105	393,130	574,281	784,220	10,052,308	9,451,813

in 1954—G. H. "Hoke" Clark, who died in Lima, Peru, shortly after assignment in South America for Star-Kist Foods, Inc.

Freezerships continued in operation for the tuna industry, and included *Alaska Reefer, Spicewood, Puerto del Sol, Toni B.*

- *TARIFF and IMPORTS*—Plagued by imports of canned and frozen tuna, and by high inventories, a committee representing the Southern California tuna industry in October engaged the services of the Stanford Research Institute for an economic survey of the industry. A preliminary report from the Institute was given to the industry in December.

In relation to imports, the year closed with designated members of the industry appearing before the Committee for Reciprocity Information and the Tariff Commission on the subjects of tuna-in-brine and frozen tuna imports.

The Southern California tuna industry continued its efforts to prove that imports of tuna in brine are being erroneously classified for tariff purposes by commencing formal proceedings under Section 516 (b) of the Tariff Act of 1930 to have the Secretary of the Treasury re-classify the dutiable status of imported canned tuna in brine.

The right of free passage of American tuna fishing boats on the high seas was intensified in 1954 and strengthened by the Federal high seas fishermen's protective act; and the seizure and fining of the *Sun Streak* would undoubtedly be the proving ground for Public Law No. 680.

1953 - Southern California Tuna Receipts by Ports - 1953

LOS ANGELES HARBOR

Month	Yellowfin Tons	Skipjack Tons	Bluefin Tons	Albacore Tons	Bonito Tons	Yellowtail Tons	Total Tons
January	1,809	2,792	10	493	...	7	5,111
February	1,409	2,395	...	562	...	...	4,366
March	2,917	2,094	9	1,585	...	3	6,608
April	6,882	1,552	2	2,139	...	15	10,590
May	7,487	2,246	...	1,419	...	15	11,167
June	6,497	2,615	...	2,344	...	34	11,490
July	7,768	6,852	655	5,301	79	53	20,708
August	4,282	5,400	1,907	6,175	25	105	17,894
September	2,381	2,039	918	2,809	34	94	8,275
October	2,016	2,467	315	606	853	555	6,812
November	1,642	2,485	12	130	85	145	4,499
December	2,123	3,082	40	69	110	90	5,514
Totals	47,213	36,019	3,868	23,632	1,186	1,116	113,034

SAN DIEGO

Month	Yellowfin Tons	Skipjack Tons	Bluefin Tons	Albacore Tons	Bonito Tons	Yellowtail Tons	Total Tons
January	1,147	1,004	...	...	...	8	2,159
February	473	1,128	...	75	...	14	1,690
March	1,609	1,065	...	631	...	5	3,310
April	2,804	492	...	1,014	...	8	4,318
May	2,992	797	...	298	...	118	4,205
June	2,494	1,375	...	161	...	87	4,117
July	2,241	3,216	246	3,626	1	59	9,389
August	2,172	3,876	440	4,005	...	11	10,504
September	1,412	3,664	68	1,587	5	145	6,881
October	1,313	3,133	6	288	81	262	5,083
November	1,658	3,329	...	...	133	263	5,383
December	1,513	4,415	5	12	122	174	6,241
Totals	21,828	27,494	765	11,697	342	1,154	63,280
Southern California Totals	69,041	63,513	4,633	35,329	1,528	2,270	176,314

Sun-Pacific, Inc.

Successor To

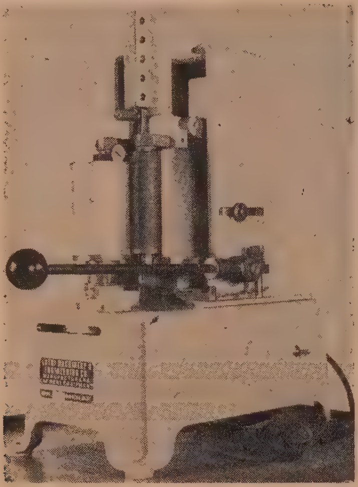
Sun Harbor Packing Company

Incorporated 1924

520 Ash Street San Diego 12, California Belmont 9-2289

Luthi

Power Driven ROUND CAN STRAIGHTENER for empty cans



Height: 25"
Width: 10"
Depth: 24"
Weight: 65 lbs.
⅓-hp. Motor, 110-Volts

INTERCHANGEABLE: A wide range of mandrel sizes can be used on one machine to take care of many can sizes. Mandrels are available in sizes from 202 dia. (2-2/16") to 503 dia. (6-3/16") and from 1-0 high (1-9/16") to 700 high (7").

EASILY CHANGED OVER: A few quick and simple adjustments to change to a different can size in less than 5 minutes.

LUTHI MACHINERY & ENGINEERING CO., Inc.
P. O. Box 1147, Sta. A, Gardena, Calif.

(Manufacturers of famous National Labeling Machines used throughout the world by leading fish packers; and the LUTHI Quality Chunk Tuna Fish Filler)

MARINE HARDWARE CO.

Oldest fishing supply house in Los Angeles Harbor. Handling only products of proven quality.

Gold Medal Netting and Seine Twine
American Marine Paint "Triple C"
Johnson's Best Fishermen's Clothing
Plymouth Manila Rope
Net-Life Preservative
Bethanized Wire Rope purse lines
American Tar Co.

San Pedro
Berth 73
TE 2-7505

Main Store:
509 Beacon St.
San Pedro
TE 2-7505

Terminal Island:
304 Sardine St.
TE 2-7505

Fishing Vessel
REFRIGERATION

TRADE FRICK MARK

. . . The Choice of Experienced Fishermen!

Rely On Baker Engineering Corporation. . . . Parts and Service in the fishing fleets for 25 years.

BAKER ENGINEERING CORPORATION

LOS ANGELES SAN PEDRO

ORICA TRADING CO.

Since 1937 . . . supplier of imported frozen tuna

JAMES T. OTA
MAdison 6-6571

604 E. Fourth St. Los Angeles 13, Calif.

1954 -PACIFIC NORTHWEST ALBACORE PACK - 1954

Company	CANNERY LOCATION	FANCY & STANDARD		CHUNKS & FLAKES		TOTAL Standard Cases 48, ½-lb. cans
		½ - lb. Flats, 48's	Other Sizes	White Meat ½ - lb.	White & Dark ½ -lb. 48's	
Barbey Packing Corporation	Astoria	6,260	...	556	1,476	8,292
Columbia River Packers Ass'n.	Astoria	240,287	35,091	...	80,693	356,071
Farwest Fishermen, Inc.	Anacortes	2,000	...	...	...	2,000
Fishermen's Cooperative Ass'n.	Seattle	2,500	...	1,500	500	4,500
Lazio, Tom Fish Co.	Eureka	830	...	140	70	1,040
Portland Fish Co.	Portland	1,484	...	450	322	2,256
Point Adams Packing Co.	Hammond	31,411	5,861	7,182	7,707	52,161
West Coast Fish Co.	Aberdeen	26,634	...	2,807	8,975	38,416
Whiz Fish Products Co.	Hoquiam	4,308	...	...	1,152	5,460
TOTAL		315,714	40,952	12,635	100,895	470,196

North Coast Albacore again appeared in only minor quantity in 1954, but the Oregon-Washington canneries operated on imported frozen fish, packing some 470,000 cases.

• *FAILURE REPEATED*—The story of failure which has been told on the Oregon and Washington coastal Albacore fishery in recent years was repeated in 1954, when the catch fell to the lowest level yet recorded.

Canning of 470,000 cases of Albacore in this area was made possible only by the import of frozen tuna from foreign sources. The few thousand cases of domestic Albacore packed in the Pacific Northwest was derived from fish delivered by northern boats as they returned to home ports from their final trips.

NORTH COAST ALBACORE PACKS BY PORTS

(Cases)

Oregon Coast	Columbia River	Oregon Total	Year	Pacific Northwest Regional Total	Year	Washington Total	Willapa-Columbia River	Grays Harbor	Puget Sound
..	(a)419,820	(a)419,820	1954	470,196	1954	50,376	..	43,876	6,500
..	541,612	542,597	1953	594,073	1953	51,476	..	33,333	18.143
...	487,563	487,563	1952	588,926	1952	101,363	12,503	88,860	...
...	334,903	334,903	1951	398,236	1951	54,333	...	54,333	...
13,060	586,287	599,347	1950	701,014	1950	101,667	3,500	98,167	...
23,287	319,337	342,624	1949	432,919	1949	90,295	10,845	79,450	...
44,822	286,847	331,669	1948	417,354	1948	85,685	8,225	76,627	833
(a)47,123	281,062	(a)328,185	1947	(a)385,570	1947	57,385	8,434	48,508	443
23,243	121,386	144,629	1946	192,237	1946	47,608	...	47,608	...
55,747	348,958	404,705	1945	466,859	1945	62,154	...	62,154	...
40,000	(b)750,356	790,356	1944	846,596	1944	56,240	...	56,240	...
8,000	282,536	290,536	1943	301,414	1943	10,878	...	10,878	...
...	307,810	307,810	1942	314,353	1942	6,543	...	6,543	...
...	194,833	194,833	1941	197,629	1941	2,796	...	1,176	1,620
...	197,535	197,535	1940	207,723	1940	10,188	...	4,908	5,280
2,118	151,584	153,702	1939	(c)173,359	1939	15,857	...	3,100	12,757

(a) Includes some fish canned at Eureka, Calif. (b) Division of 1944 pack between Columbia River and Oregon Coast is only approximate. (c) Includes 3,800 cases canned in British Columbia.

Note:-Data for the several calendar years cover packs made from fish caught during those years, even though in some cases canning of frozen stocks may not have been completed until in the next calendar year.

NORTH COAST ALBACORE BY GRADES

(Cases)

OREGON				Year	PACIFIC Northwest Comb'd Totals	Year	WASHINGTON			
Fancy & Standard	Flakes		Total Standard				Total Standard	Flakes		Fancy & Standard
	White	Blended						White	Blended	
321,224	8,328	90,268	419,820	1954	470,196	1954	50,376	4,307	10,627	35,442
375,461	83,240	83,896	542,597	1953	594,073	1953	51,476	3,355	10,763	37,358
323,870	81,297	82,396	487,563	1952	588,926	1952	101,363	25,041	8,950	67,372
254,173	23,984	56,746	334,903	1951	389,236	1951	54,333	12,347	3,186	38,800
430,712	62,849	101,319	594,880	1950	701,014	1950	106,134	18,791	15,277	72,066
265,266	24,336	52,697	342,299	1949	432,919	1949	90,620	23,244	5,731	61,645
231,138	48,583	50,404	330,125	1948	417,354	1948	87,229	15,450	9,372	62,409
231,075	50,163	45,464	(a)326,702	1947	(a)385,570	1947	58,868	5,876	11,179	41,813
101,478	23,477	19,674	144,629	1946	192,237	1946	47,608	7,251	5,708	34,649
274,720	69,454	55,674	(d)399,848	1945	466,859	1945	67,011	7,391	9,440	50,180
564,574	106,777	119,005	790,356	1944	(b)846,596	1944	56,240	...	16,240	40,000
250,982	39,554	...	290,536	1943	301,414	1943	10,878	...	1,775	9,103
...	...	...	307,810	1942	314,353	1942	6,543	...	...	...
...	...	...	194,751	1941	197,629	1941	2,878	...	...	...
...	...	...	197,735	1940	207,723	1940	10,188	...	...	...
...	...	...	153,702	1939	(c)173,359	1939	15,857	...	...	...

(a) Includes 3,231 cases fancy and 985 cases flakes canned at Eureka, Calif.
(b) Division of 1944 pack as to grades is approximate only.
(d) Includes a small quantity canned at Ilwaco, Wash.
(c) Includes 3,800 cases canned in British Columbia.

Note:-Grade segregation not available for years prior to 1943. Figures for the several calendar years cover quantities packed from fish caught during those years, even though in some cases canning of frozen stocks may not have been completed until the next calendar year.

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TONNO
SALT ADDED
SORRENTO
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SWEEP STAKES
FINEST QUALITY
California
WATER AND SALT
MACKEREL

PACKED
UNDER
THE MOST
MODERN
SANITARY
CONDITIONS

SWEEP STAKES
FINEST QUALITY
California
WATER AND SALT
SARDINES

SWEEP STAKES
California
SARDINES
PACKED IN TOMATO SAUCE
SALT ADDED

350 SARDINE STREET, TERMINAL ISLAND, CALIFORNIA

1954 -IMPORTS OF CANNED TUNA- 1954

Pounds

Countries	Nov. '53	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	Total
JAPAN - Total	2,881,314	1,438,619	1,771,111	2,508,700	3,106,252	4,092,383	2,969	1,900	1,666	1,599	2,603	2,335	15,811,451
Albacore: Oil	...	...	25,819	29,300	17,076	19,911	2	7	39	...	...	...	92,154
Brine	...	...	513,857	586,895	609,148	1,300,150	1,272	872	650	465	859	905	3,015,073
Other Tuna: Oil	271,283	126,421	44,050	71,084	46,213	18,991	6	11	21	...	4	...	578,084
Brine	2,610,031	1,312,198	1,187,385	1,821,421	2,433,815	2,753,331	1,689	1,010	956	1,134	1,740	1,430	12,126,140
PORTUGAL - Total	3,158	32,541	2,199	26,920	77,443	26,375	26	62	155	132	86	56	169,153
Albacore: Oil	...	...	2,199	4,191	55,287	2,513	...	...	6	...	11	...	64,207
Brine	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuna: Oil	3,158	32,541	...	22,729	22,156	20,125	16	3	...	...	...	...	100,728
Brine	...	...	...	...	...	3,737	10	59	149	132	75	56	4,218
PERU - Total	161,752	84,392	34,870	53,187	133,568	242,630	40	102	57	28	6	20	710,652
Albacore: Oil	...	...	...	...	...	19,110	...	...	...	...	...	...	19,110
Brine	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuna: Oil	...	15,650	8,893	39,648	4,200	175,196	20	65	...	...	6	2	243,680
Brine	161,752	68,742	25,977	13,539	129,368	48,324	20	37	57	28	...	18	447,862
ANGOLA - Total	...	...	13,053	...	1,488	56,946	73	38	27	50	3	...	71,678
Albacore: Oil	..	...	...	...	...	...	...	...	...	...	...	...	...
Brine	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuna: Oil	...	...	12,285	...	1,488	2,083	...	2	...	...	1	...	15,859
Brine	...	...	768	...	...	54,863	73	36	27	50	2	...	55,819
OTHERS – Total	165,609	172,079	44,833	171,752	72,966	22,045	24	30	167	120	15	107	649,747
Albacore: Oil	...	...	...	...	...	7,713	...	...	2	...	...	...	7,715
Brine	...	...	12,291	63,659	23,010	8,828	6	13	28	15	11	42	107,903
Other Tuna: Oil	2,588	1,200	...	...	...	...	14	...	...	...	4	7	3,813
Brine	163,021	170,879	32,542	108,093	49,956	5,504	4	17	137	105	...	58	530,316

SAN PEDRO CANNED TUNA BY GRADES

YEAR & TYPE	Solid	Standard	Chunks	Grated & Flakes	Dark & Light	Tonno	Misc.	TOTAL
1951								
Lightmeat	497,942	113,731	666,590	1,701,833	48,690	103,817	11,260	3,143,863
Whitemeat	264,789	72,667	99,723	141,941	610	418	229	580,377
Yellowtail & Bonito	....	22,926	....	66,153	....	....	......	89,079
TOTAL	762,731	209,324	766,313	1,909,927	49,300	104,235	11,489	3,813,319
1952								
Lightmeat	820,745	89,832	2,198,448	973,275	54,830	83,083	94,883	4,315,094
Whitemeat	505,833	12,114	302,236	178,827	6,276	1,738	24,375	1,031,401
Yellowtail & Bonito	....	53,475	7,606	132,457	....	....	....	193,538
TOTAL	1,326,578	155,421	2,508,290	1,284,559	61,106	84,821	119,258	5,540,033
1953								
Lightmeat	580,967	128,009	2,187,041	745,753	29,961	124,626	136,270	3,932,627
Whitemeat	699,469	18,379	326,908	217,422	10,546	164	40,211	1,313,099
Yellowtail & Bonito	....	10,915	16,865	75,941	......	....	......	103,721
TOTAL	1,280,436	157,303	2,530,814	1,039,116	40,507	124,790	176,481	5,349,447

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CHUNK

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- It improves taste, texture and appearance. (By test, six (6) out of seven (7).)
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- It increases oil absorption by the canned fish.
- It replaces oil removed by the canning process.
- It increases insulation of tuna or salmon surfaces in the can.
- It prevents scorching in the can.
- It increases consumer acceptance and repeat sales.

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TE 21183 TE 21184

California Tuna Clipper Fleet—1954

Following list represents the California fleet of live-bait tuna fishing vessels—"clippers"—delivering to San Pedro or San Diego canneries at the end of 1954. It does not include American-built vessels delivering all or the major part of their catches in foreign ports, or those based in foreign countries and delivering to carriers for transport to United States ports. "Capacity" is the approximate number of tons of refrigerated tuna in a maximum load for the vessel.

Name of Boat	Builder	Length	Capacity	Managing Owner
Aggressor	Martinolich	125	320	Joseph Rogers
Agnes C.	Western	98	160	Van Camp Sea F'd Co.
Alphecca	National	128	240	Ambrose Co.
American Beauty	Campbell	142	350	G. P. Ellington
American Boy	Consolidated	124	310	Joaquim Canas
American Clipper	Al Larson	115	165	Edw. P. Silva
American Enterprise	Lynch	128	275	M. S. Rice
American Lady	Al Larson	98	165	R. X. Madruga
Antoinette B.	National	121	280	Edw. X. Madruga
Azoreana	Campbell	142	375	M. G. Rosa
Balboa			55	John Zolezzi
Belle of Portugal	Campbell	130	325	M. G. Rosa
Benita	Campbell	90	125	Mario Toso
Bernadette	Campbell	145	350	Frank Medina
Bond	Joe Romera	52	30	Roy Wilson
Cal	Campbell	90	110	Geo. Campbell
Cape Beverly	Martinac	113	185	J. M. Martinac
Cape Falcon	Harbor	128	240	Louis Peterson
Cape San Vincent	Tacoma	91	130	Vincent Gann
Carol Virginia	National	115	200	National Marine
Challenger	Avondale	122	240	Lewis Livesley
Charlene	Martinolich	115	215	Dr. O. H. Warner
Chicken of the Sea	Birchfield	143	420	Harold Morgan Jr.
City of San Francisco	Genoa	95	110	Joseph Colla
Clara Marie	No. American	62	60	Frank Mangiapone
Coimbra	Western	136	300	Van Camp Sea Food
Columbia	Martinac	107	210	Manuel Serpa
Commander	Birchfield	126	290	Al Davis
Commodore	Campbell	130	260	Louis Vattuone
Conte Bianco	National	127	300	Stefano Massa
Conte di Savoia	Consolidated	125	310	National Marine
Constitution	Campbell	150	390	Vernon Brown
Cora Ann	Harbor	73	70	*M. J. Rankin
Corsair	Chilman	128	280	Harold Morgan
Courageous	United	131	325	Lewis Livesley
Crusader	Puget Sound	105	250	*J. G. Cardosa
Daiho II		80	55	*C. M. Johnson
Defiance	Tacoma	106	220	Ted Lucich
Deolinda	San Diego	100	140	Manuel Silva
Ecuador	National	133	460	M. O. Medina
Electra	San Diego	57	50	*Dan Battaglia
Mary Lou	Lynch	118	210	Herbert C. Hudgins
Mary E. Petrich	Western	150	490	Western Boat Bldg. Co.
Mary S.	Martinac	110	200	Lewis Livesley
Mauritania	Avondale	132	325	Lewis Livesley
Mayflower	Campbell	145	370	George Campbell
May Queen	Puget Sound	121	275	Carl Medina
Mercator			55	H. Olsen
Mermaid	Peterson	107	190	Frank Correira
Miss America	Hodgson	100	150	*Hodgson, G. H.
Monarch	Hodgson	80	100	Salvador Lucas
Mondego	Puget Sound	103	190	Manuel Almeida
Myrtle L		46	30	J. Dale Martin
Navigator	Campbell	145	370	Joe S. Rogers
Normandie	Campbell	160	445	M. O. Medina
Northern Light	Campbell	90	150	W. A. Hoss
Notre Dame	Lynch	96	160	John G. Cardosa
Oceana	Campbell	148	400	*Thos. Bagalini
Ocean Pride	Lynch	128	280	Frank Perry
Pacific Queen	Rask	79	80	Jack Carniglia
Palomar	San Diego	103	160	Lee Irish
Paramount	Avondale	132	325	Joe Madruga
Picaroto	Campbell	130	325	Manuel G. Rosa
Portuguesa	Lynch	113	235	Manuel G. Rosa
Queen Mary	Campbell	140	400	Joe M. Medina
Renown	Hodgson	126	250	Lewis Livesley
Ronnie S	Campbell	128	240	Tom Santos
Rose Ann	No. American	62	50	Leo Tarantino
Royal Pacific	Martinac	117	250	J. M. Martinac
Ruthie B	National	110	160	Dr. O. H. Warner
St. Anthony		68	70	Frank Alito
St. Francis	Western		100	Western Boat Bldg. Co.
St. Mary		80	120	Louis Massa
San Antonio III			50	Pete Di Maria
Santa Anita	Avondale	121	200	Geo. W. Clause
Santa Helena	Avondale	135	360	Andrew Zamberlin
Santa Margarita	Al Larson	105	180	*John G. Cardosa
Santa Rosa	Harbor	128	240	Anthony Bozanich
Saratoga	Tacoma	121	250	Manuel Luz
Sea Boy	Lake Union	124	215	Manuel A. G. Luis
Seafarer	Birchfield		250	Al Davis
Sea Giant	Martinolich	92	100	Nat'l. Marine Terminal

Elena	Martinolich	98	150	W. H. Babcock
Endeavor	Campbell	143	400	Wade Ambrose
Equator	National	133	360	M. O. Medina
Espirito Santo	Soule	140	485	Frank Perry
Explorer	Lynch	165	575	Arne Strom
Evelyn R	Long Beach	126	240	M. M. Medina
Excalibur	Avondale	121	240	Ave Gonsalves
Far-Famed	Campbell	125	200	S. Parmigiani
Favorite	Puget Sound	105	200	Antonio da Rosa
Frances Marie	Martinolich	103	165	Frank Perry
Gem of the Sea	Martinac	128	280	Manuel E. Simas
Genevieve H		65	50	George Kell
Golden Glow	Peterson	96	155	Frank Fernandes
Helen Ann	Bellingham	130	240	A. T. Procopio
Helen S	Harbor	120	280	Manuel Simas
Heroic	Lynch	116	200	M. O. Medina
High Seas	Hodgson	128	290	J. F. Reis
Historic	Martinac		240	M. O. Virissimo
Hornet	Harbor Boat	128	270	Al. R. Virissimo
Intrepid	Lynch	128	270	George Budd
Invader	Campbell	117	150	Sal. Navarra
Irene S	Al Larson	105	210	Van Camp
Jeanne Lynn	Tacoma	122	250	G. W. Martin
Jenita	National	106	140	G. W. McHenry
Joan of Arc	United	131	300	Manuel Balelo
Jo Maria	Hodgson	123	260	Mrs. J. Sciuto
Judy S	Harbor	124	230	Nat'l. Marine Terminal
Julia B	Lynch	96	160	John Ghio
Kathryn	Campbell	68	65	Salvatore Cresci
Katie Lou	Lynch	124	225	Felix Budzilko
Kitty Hawk	United	131	290	N. C. Andrews
La Belle	No. American	62	50	Archie White
Leona C	Martinac	128	210	Joe Penacho
Liberty	Puget Sound	100	180	Eddie X. Madruga
Liberty Bell	Hodgson	112	215	F. H. Gonsalves Jr.
Lone Wolf	Harbor	69	70	John Zolezzi
Lou Jean	Consolidated	106	210	Louis Guidi
Lucky Star	National	106	175	National Marine
Lucy Elena	National	111	195	National Marine
Lusitania	Al Larson	98	160	Manuel G. Rosa
Magellan	San Diego	105	150	Harbor Boat Co.
Marie Louise	San Diego	75	75	Steve Zolezzi
Marilyn Rose	Long Beach	100	160	Long Beach, Inc.
Mariner	Fulton	128	280	F. W. Szalinski
Martin B	National	128	270	Frank Perry
Mary Barbara	National	106	165	National Marine
Mary C. Canas	Puget Sound	100	140	Jack Canas
Jean Jean			75	John Zolezzi
Mary Jo	Martinac	108	170	Joe Rogers
Sea Lark	National	165	550	Nat'l. Marine Terminal
Sea Lion	Hodgson	91	133	Manuel Calergio
Sea Magic	Avondale	121	200	E. Frederick
Sea Preme	National	127	320	Nat'l. Marine Terminal
Shamrock	San Diego	105	175	Ernie Monteiro
Shasta	San Diego	96	115	Jack Canepa
Sheryl	Schulte	67	55	*B. L. Johnson
South Coast	Western	115	195	Dan Marks
South Seas	Hodgson	95	165	Manuel Labrancia
Southern Pacific	Martinac	123	260	J. M. Martinac
Southern Queen		100	160	John Rippo
Southland	Martinac	100	160	California Marine
Star Crest	San Diego	110	200	Star & Crescent
Star of the Sea	Campbell	115	190	Nat'l. Marine Terminal
Sun Dawn	Martinolich	128	240	Sun Pacific
Sun Dial	Puget Sound	131	470	G. W. McHenry
Sun Dora	Martinolich	128	260	Antonio Oliveira
Sun Europa	Martinolich	149	350	Sam Crivello
Sun Glow	Puget Sound	98	150	Anthony Madruga
Sun Hawk	Pacific Boat	93	130	George Alameda
Sun Hilarita	Avondale	130	310	Virgil Paixao
Sun Jason	Avondale	132	280	Nat'l. Marine Terminal
Sun King	Pacific	112	250	John Xitco
Sun Pacific	Tacoma	128	250	Roman M. Luz
Sun Queen	Hodgson		260	C. A. Cutri
Sun Ray	United	131	280	Steve Kral
Sunset	United	121	220	Anthony Bregante
Sun Splendor	Campbell	128	240	Sun Pacific Inc.
Sun Traveler	Puget Sound	121	250	Joseph Pombo
Sun Venus	Martinolich	103	160	*Alfred Brum
Sun Victoria	Campbell	149	370	*Sun Pacific, Inc.
Supreme	Campbell	128	260	Manuel Correia
Talisman		75	50	*So. Calif. Fish Co.
Trojan	No. American	55	30	Sam Meserve
United Victory	Hodgson	116	240	*Arthur DeFever
Valiant	Martinac	108	180	Calif. Marine
Venetian	Campbell	65	55	*Steve Stagnare
Veva R.	Campbell	70	80	*Matteo Rodia
Victoria		140	380	The Ambrose Co.
Victory	Marine View	91	110	O. H. Warner
Virginia R	Tacoma Boat	108	240	Joe C. Correira
West Coast	Lynch	96	180	John Ghio
Western Ace	Western	165	575	Hervey Petrich
West Point	Tacoma	112	250	Carl Hanken
White Sea	Harbor	128	280	White Sea Corp.
White Star	Guntert	140	484	John Tasso
Wiley V. A.	Guntert	112	215	The Ambrose Co.
Zarco		122	170	Zarco Fishing Co.

(Refer to explanatory note on following page.)

Tuna Clipper Fleet Explanatory Notes—See Preceding Page

NOTE—In the accompanying table of California tuna clippers, in some cases yards listed under "Builder" actually were the yards where the vessels were converted to tuna fishing, rather than the original builder. In the above table names of yards have been abbreviated as follows: **Avondale,** Avondale Marine Ways, New Orleans; **Bellingham,** Bellingham Iron Works, Bellingham, Wash.; **Birchfield,** Birchfield Boiler, Inc., Tacoma; **Campbell,** Campbell Machine Works, San Diego; **Chilman,** Chilman Shipyard, Hoquiam, Wash.; **Consolidated,** Consolidated Steel Corporation, Newport Beach; **Fulton,** Fulton Shipyard, Antioch, Calif.; **Genoa,** Genoa Boat Works, San Francisco; **Guntert,** Guntert & Zimmerman, Stockton, Calif.; **Harbor,** Harbor Boat & Yacht Co., San Diego; **Hodgson,** Hodgson-Greene-Haldeman, Long Beach; **Lake Union,** Lake Union Dry Dock Co., Seattle; **Al Larson,** Al Larson Boat Co., Terminal Island; **Long Beach,** Long Beach Marine Repair, Long Beach; **Lynch,** Lynch Shipbuilding Co., San Diego; **Marine,** Marine View Boat Building Co., Tacoma; **Martinac,** J. M. Martinac Shipbuilding Corporation; **Martinolich,** Martinolich Shipbuilding Co., San Diego; **National,** National Steel & Shipbuilding Co., San Diego; **Peterson,** Peterson Boat Building Co., Tacoma; **Puget Sound,** Puget Sound Boat Building Co., Tacoma, **Rask,** Peter Rask Boat Yard, San Diego; **San Diego,** San Diego Marine Construction Co., San Diego; **Schulte,** Schulte Boat Works, Gardiner, Ore.; **Soule,** Soule Steel Co., Stockton, Calif.; **Tacoma,** Tacoma Boatbuilding Co., Tacoma; **United,** United Concrete Pipe Co., Long Beach; **Western,** Western Boatbuilding Co., Tacoma. *Ownership as shown by latest edition of "Merchant Vessels of the United States'..

SAN DIEGO CANNED TUNA BY GRADES

YEAR & TYPE	Solid	Standard	Chunks	Grated & Flakes	Dark & Light	Tonno	Misc.	TOTAL
1951								
Lightmeat	872,560	101,909	1,444,755	530,229	2,678	58,042	4,991	3,015,164
Whitemeat	180,887	88,887	100,926	39,119	......	......	.....	409,819
Yellowtail & Bonito	....	270	....	12,175	......	......	.....	12,445
TOTAL	1,053,447	191,066	1,545,681	581,523	2,678	58,042	4,991	3,437,428
1952								
Lightmeat	475,181	26,455	902,647	344,532	......	36,868	1,009	1,786,692
Whitemeat	309,319	......	225,255	109,774	......	7,708	.....	652,056
Yellowtail & Bonito	......	80	3,035	31,117	......	.....	.....	34,232
TOTAL	784,500	26,535	1,130,937	485,423	......	44,576	1,009	2,472,980
1953								
Lightmeat	492,617	56,386	1,123,132	368,405	3,810	44,134	2,858	2,091,342
Whitemeat	351,945	......	142,192	141,440	557	10,875	.....	647,009
Yellowtail & Bonito	......	68	14,114	55,684	.....	......	.....	69,866
TOTAL	844,562	56,454	1,279,438	565,529	4,367	55,009	2,858	2,808,217

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Aspects of 1955 Inter-American Tuna Researches

By M. B. SCHAEFER

What They Indicate

• Inhabiting the high seas off the shores of the Americas from California to Peru and northern Chile, the tropical tunas, Yellowfin and Skipjack, constitute the marine resource supporting the most valuable fishery of the Eastern Pacific Ocean. In 1953, there were produced 288 million pounds of these species; 1954 landings will add to about 310 million pounds.

The major share of this harvest is gathered by fishing vessels of the United States—large, expensive, long-range craft, constituting the most modern and specialized fishing fleet in the world. In Peru and other nations of Latin America, also, recent years have seen the introduction of modern methods of fishing, supplanting the primitive methods used for centuries to capture tunas along the margins of the sea. It may be expected that this share of the harvest will increase in the future, since throughout Latin America nations are turning to the sea for new means of subsistence for their growing populations.

The tropical tunas are inhabitants of the open sea, capable of roaming over vast areas, and calling no country home. The rational harvesting of their natural increase requires that the fishermen, likewise, cover vast areas in the course of a year, shifting from area to area with the seasonal changes in the concentrations of the fish they seek. Conservation and management of such a fishery is truly an international problem, requiring the cooperation of the several nations concerned.

At least 80% of all the tunas taken from the Eastern Tropical Pacific are captured by the use of live bait. The bait fishes are small, mostly of the anchovy and herring (sardine) families, which occur primarily in inshore waters. Control of fishing for bait is, therefore, primarily in the hands of the individual nations in whose territorial waters these species are found. Since bait is a necessity for this method of tuna fishing, the wise utilization of the stocks of bait fishes is a matter of wide interest and concern.

• *FACTS AND MEANING*—It has become evident from experience with other fisheries, such as the halibut and salmon of the North Pacific, and the haddock of the North Atlantic, that if man is to obtain maximum catches on a continuing basis from a fish stock, he must order his actions in accordance with the facts of nature. It has been abundantly demonstrated that the research approach—finding the facts, then acting in accordance with them—is the only sure basis for maximizing the yields of the fisheries.

The notable success of the older international fisheries commissions has demonstrated the effectiveness of this form of international cooperation in finding, and applying, the facts obtainable by careful research. It is logical, therefore, that the nations concerned with the tropical tuna fishery should turn to this precept to provide a sound basis for its conservation.

The Inter-American Tropical Tuna Commission was established by a convention between Costa Rica and the United States in 1949; its scientific investigations were commenced in 1951. The Convention contains the novel provision that other nations having an interest in the fishery may adhere to the Convention by a simple exchange of correspondence. Panama adhered in the fall of 1953.

The Tuna Commission has as its sole objective the gathering and interpretation of factual information to facilitate maintaining the populations of tunas and bait fishes at levels which will permit maximum sustained catches year after year. It is authorized only to conduct scientific investigations and to make recommendations to the member governments on the basis thereof. It has no regulatory powers.

• *TUNAS' STATUS TODAY*—Perhaps the most novel feature of the Tuna Commission is its formation at a time when the fishery with which it has to deal is, by and large, in a healthy condition. Ordinarily no great need is felt for serious research on a fishery until falling abundance of the fish stocks and falling catches cause marked economic distress. The Tuna Commission, thanks to the foresight of the member nations, has on the contrary been given the rare opportunity to commence studying the tropical tuna species at a relatively early stage in their exploitation. This has made it possible to study the early development of the fishery in some detail and so perhaps to estimate the levels of maximum yields before they are seriously overreached.

One of the foremost research tasks of the Commission's staff has been the collection and analysis of current and historical statistical data from which to estimate changes in fishing effort and the associated changes in abundance and yield of the tuna stocks supporting the fishery in the Eastern Pacific. Fortunately, quite good historical data for this purpose were found to exist in the records of government agencies, tuna canners, and fishing vessel operators. Analysis of these records, considering the entire

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Dr. Schaefer is director of Investigations for the Inter-American Tropical Tuna Commission, in charge of the work which he discusses here.

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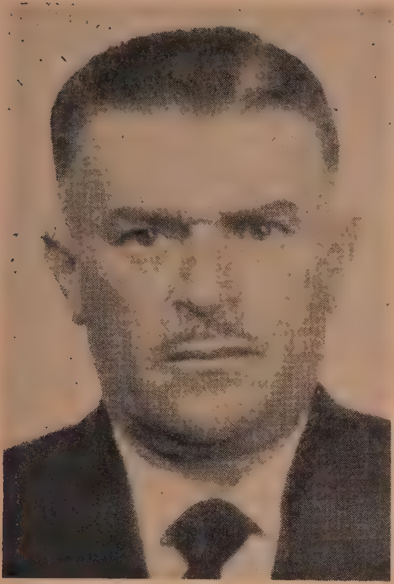


Victor Nigro, one of Costa Rica's members on the Inter-American Tropical Tuna Commission, is also that country's consul at San Diego, Calif.

fishery as a unit, has led to the following tentative conclusions:

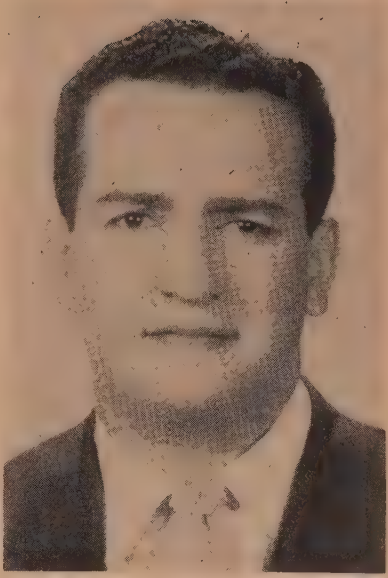
> 1.—The intensity of the fishery for Yellowfin has been sufficiently great to produce notable changes in the abundance of this species. Present levels of yield are near the maximum that can be obtained on a sustained basis, and it is possible that recent levels of fishing intensity may be somewhat greater than that corresponding to the maximum average sustained catch.
>
> 2.—Abundance of Skipjack is subject to wide fluctuations from year to year, not related to intensity of fishing. The large postwar increase in fishing intensity and catch has not produced changes in the skipjack stocks measurable, by analyses so far made, in the presence of these natural variations. It appears therefore that the average catch of this species is capable of considerable increase.

These conclusions apply to the tuna populations of the Eastern Pacific considering each species as a single stock. It is possible, and indeed probable, that each species consists of several independent, or semi-independent stocks. In this case, some components of the Yellowfin tuna population may be overfished while others are underfished. This can be determined only on the basis of knowledge of the identity of the component stocks, and catch statistics referred to these natural units, based on the detailed log-book records being collected currently by the commission's staff.

• *SEEKING FURTHER*—In order to make intelligent and efficient recommendations for maximizing the average catch of the tunas, it is necessary for the commission to have some insight into those causes of changes in the abundance and catch which are unrelated to the amount of fishing, and which depend on the variable factors of the environment. This involves understanding the natural fluctuations in the abundance of the tunas related to variations in success of spawning, rate of growth, and rates of loss due to natural causes. Since what we measure from the catch statistics is the abundance as it appears to the fishermen, rather than the true abundance of fish in the sea, we must also have some understanding of how and why the tunas vary in their "availability" to the fishing gear from place to place and year to year.

The investigation of these matters is not simple, and requires costly research at sea from commercial fishing vessels and from specialized research craft. It requires, among other things, that we work out in some detail the life histories of the tunas, about which little has been known until recent years; that we measure their migrations; that we determine their feeding habits; and that we learn in what ways the abundance and availability of the stocks are related to the physical, chemical and biological features of the oceanic environment.

Research along none of these lines of study has been adequately developed as yet, but quite a good start has been made on them by the staff of the Tuna Commission and by scientists of associated agencies (Scripps Institution of Oceanography, California State Fisheries Laboratory, and Pacific Oceanic Fishery Investigations). We have been particularly fortunate in obtaining indispensable assistance from the Scripps Institution of Oceanography, which has conducted detailed studies of the physical, chemical and biological oceanography of the tropical Eastern Pacific quite beyond the present financial means of the commission. While we are very far from knowing all we need to know about the tropical tunas and the ocean in which they live, we know a great deal more than we did four years ago. Little by little we are gathering the facts that will be needed for intelligent conservation of the tropical tunas.



Miguel A. Corro, member of the Panamanian section of the Inter-American Tropical Tuna Commission, is also the Secretary of Commerce and Industries in the Ministry of Commerce and Industries of Panama.

• *WHAT ABOUT BAIT?*—Of the several species of fishes used for tuna bait, the most important, and the one about which the least scientific information was available when we commenced working, is the tropical anchovy (*Cetengraulis mysticetus*) known to tuna fishermen as "anchoveta." This species occurs in a number of bays and gulfs in the tropical seas from Alamejas Bay in Baja California to the vicinity of Cape Blanco in northern Peru. Collections have been made throughout the last three years from each of the important baiting localities by cooperating masters of tuna vessels and by means of field trips by staff scientists, on the basis of which we have been able to determine some of the important features of their life history and ecology. It has been indicated by morphometric comparisons that the anchoveta stock of each major baiting area is a distinct biological unit, and that there is little or no interchange between areas. This is probably due to the interesting feature of their ecology that, as adults, they feed by grazing on microscopic plants and organic detritus occurring on the mud flats which are a characteristic feature of all localities in which they are found as adults.

The anchoveta is a very rapid-growing, short-lived species. Individuals reach a size where they are useable as tuna bait a few months after being spawned, and the majority of those taken in the bait catches are in their first and second years of life. They mature and spawn at one year of age, at a length of about 120 to 130 millimeters. Few, apparently, live more than two years, in most localities, and many live one year or less. Since they

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are short-lived, and only one or two year classes support the bait fishery at any time, it is evident that in any given locality wide variations in abundance are to be expected, depending on success of spawning from year to year.

Careful investigations in the Gulf of Nicoya, Costa Rica, indicated that no specimens of the anchoveta, very abundant prior to 1948, were to be found during 1952 and 1953. The restricted migrations of the species made it appear unlikely that the Gulf would soon be reseeded by migrants from other areas. Therefore, in October, 1953, the commission undertook an experiment to determine the feasibility of repopulating the Gulf by transplantation of spawners from Panama. The tuna clipper *Saratoga,* under charter to the Commission, transplanted approximately 500,000 adult anchovetas, shortly before their spawning time, from the Gulf of Panama. Small anchovetas, presumably the progeny of the transplanted adults, began to appear in our collections from the Gulf of Nicoya in May, 1954. These continued to grow throughout the summer, and reached sexual maturity in the early fall. It is, of course, premature to make any forecast of the ultimate success of this experiment, but results so far seem encouraging. Pending the final outcome of this experiment, the Government of Costa Rica has closed the Gulf of Nicoya to all fishing for tuna bait.

In the fall of 1954 the commission established a laboratory on Taboga Island in the Gulf of Panama, for the purpose of conducting detailed studies on the anchovetas of that important baiting area. Research in the Gulf of Panama will include the spawning, growth, migrations, feeding habits, and other aspects of the life history of the anchoveta; the physical, chemical, and biological regime in the waters of the Gulf, particularly as related to the effects of upwelling, and the correlation of the hydrographic data with the abundance of the bait population.

A number of other species are also used for bait by the tuna fleet. In the northern part of the tuna-fishing area, northern anchovies and California sardines are of importance. In the tropical region several species of herring-like fishes are used when anchovetas are not readily available. In the Galapagos Islands, important bait species are sardines, herrings, and a spiny-rayed fish called "salima." In the seas off northern South America, south of the range of the anchoveta, are vast quantities of Peruvian anchovies, and also important quantities of sardines. The staff of the commission has made sizeable collections of a number of these species, but the material has so far been examined only in a preliminary fashion. Certain of these species are already under fairly intensive study by other agencies. The northern anchovy and California sardine are being intensively studied by the California Cooperative Fishery Investigations. The Peruvian anchovy is under study by Peruvian scientists. The staff of the Commission is cooperating with both of these agencies in their investigations.

It is of interest to note that our analyses of catch statistics and logbook data indicate that, in spite of the notable variations in abundance of bait fishes in particular areas at particular times, the available quantities of bait seem never to have been a limiting factor on the fishery. It appears that, with a number of baiting areas and several alternative species of bait fishes available, the percentage of time required for obtaining bait has remained remarkably constant throughout the years for which data are available to us. It seems that, if wisely used, there is an adequate supply of bait in the inshore areas of the Eastern Pacific for a much greater catch of tuna than at present is being caught.

1954 - SAN DIEGO FRESH FISH LANDINGS - 1954

Species	Nov. '53	Dec. '53	Jan. 1954	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Total
Barracuda	6,724	...	2,258	3,490	36,920	800	78,322	78,302	4,082	...	215	10,391	221,504
Halibut, California	2,911	2,616	7,926	6,863	...	...	...	...	4,834	6,073	12,999	477	44,699
Kingfish	355	1,841	253	54	1,192	...	...	396	692	3,280	211	170	8,444
Mackerel: Jack	...	...	...	...	...	...	...	6,315	12,127	23,334	24,380	24,014	90,170
Pacific	1,830	...	...	...	...	...	...	...	...	...	...	...	1,830
Rockfish	592	...	428	...	2,453	2,610	...	...	...	1,418	205	...	7,706
Sea Bass: Black	6,746	174	525	...	...	...	3,207	...	...	1,381	200	413	12,646
White	1,197	41	3,352	1,960	...	...	4,754	6,193	7,091	137,291	5,744	14,019	181,642
Sculpin	...	869	978	3,096	1,899	8,169	1,236	...	...	...	...	...	16,247
Shark	4,263	17,295	3,127	588	1,467	7,907	12,333	8,852	783	...	1,993	1,925	60,533
Tuna													
Bonito	1,042	...	...	...	...	...	...	1,406	436	...	...	564	3,448
Yellowfin	...	10,293	...	...	...	...	20,349	...	...	...	...	...	30,642
Bluefin	...	...	...	...	...	...	30,320	12,374	410	18,000	...	...	61,104
Yellowtail	5,472	9,505	10,335	...	7,375	4,000	8,751	20	...	...	348	2,380	48,186
Whitefish	512	...	152	...	...	...	...	...	...	345	...	...	1,009
Miscellaneous	...	...	...	...	...	...	99	55	25	722	...	...	901
Lobster Spiny	...	...	...	99	...	...	...	...	...	...	...	...	99
Squid	1,591	1,829	...	...	...	...	...	...	...	...	...	...	3,420
TOTAL	33,235	44,463	29,334	16,150	51,306	23,486	159,371	113,913	30,480	191,844	46,295	54,353	794,230

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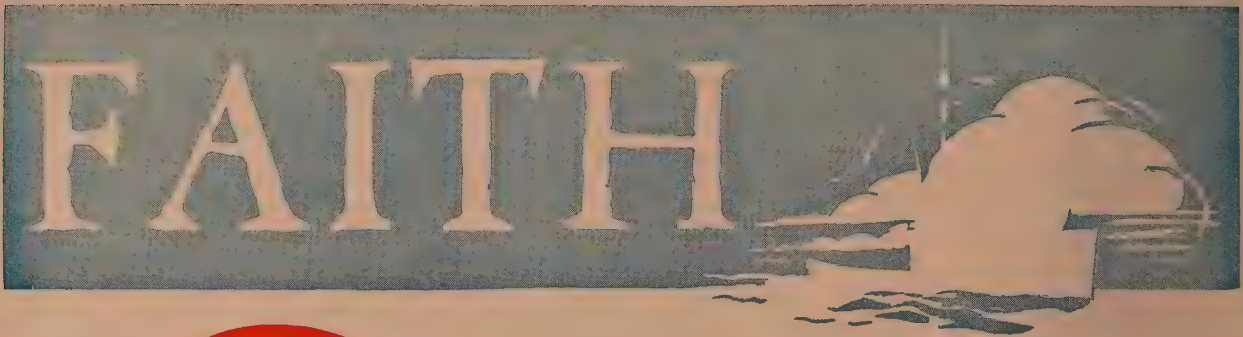

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Peruvian Center—This is the central waterfront of Paita, one of the four principal fishery centers of Peru, showing the plant of Frigorificos Paita, S.A., a modern freezing establishment handling principally tuna and swordfish. It has storage capacity for 1,200 tons of frozen fish.

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● South America's long westerly coast in 1955 radiates waves of influence throughout the hemisphere and far into the Pacific as one of world centers of expanding fisheries.

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For centuries they have been contributing importantly to the food supply of the coastal people and the inlanders with whom they trade; now they are providing food which is shipped throughout the world, while continuing to supply their domestic markets as well.

From this western coast of South America millions of dollars worth of canned bonito go annually to the markets of the United States and the United Kingdom; and South America has become in the period of a few years the world's second source of swordfish, second only to Japan.

● *TREASURE IN SILVER*—Pizzaro sought treasure in gold when he conquered and looted Peru. He found the coastal Incas fishing and preparing their catches by drying for trade with the inland centers in the Andes. Fish was food, and the Spanish used it; but they did not know that the Peruvians were harvesting the almost endless treasures of silver from the Humboldt Current which flows up the coast of South America, creating upwellings which support one of Earth's great ocean resources.

The birds of the tropics have worked these schools of fish since first sea birds flew; and, after the gold, their guano deposits on the ocean islands were among this gaunt coast's productive resources.

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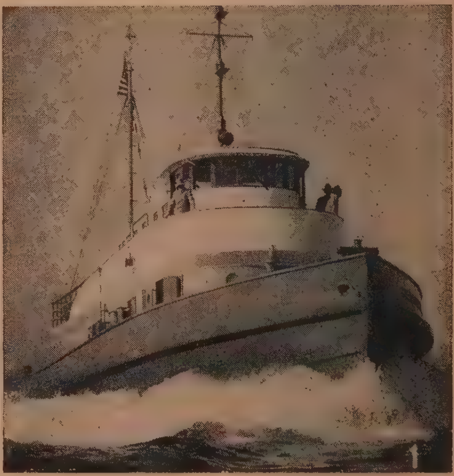

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SOUTH AMERICA

BREAKDOWN OF MAIN PERUVIAN FISH EXPORTS BY COUNTRIES

(ALL FIGURES IN METRIC TONS)

CANNED FISH

	QUANTITY, METRIC TONS								Jan - Jun	VALUE, THOUSANDS OF SOLES							Jan - June	
Countries Years	1946	1947	1948	1949	1950	1951	1952	1953	1954	1946	1947	1948	1949	1950	1951	1952	1953(5)	1954(5)
United States	1959	3176	4664	5700	7653	7642	9514(3)	7990	7128	5696	10796	16359	39131	50324	54543	66500	65586	75537
Canadá	—	325	20	—	—	149	566	630	345	—	935	67	—	—	1039	3950	4980	3660
Switzerland	50	210	149	196	523	430	664	390	267	145	907	536	1588	4311	3543	4640	3100	2830
England	—	—	—	—	—	—	314	430	2000	—	—	—	—	—	—	2580	3600	23420
Belgium	—	523	16	66	167	479	601	610	228	—	1316	49	518	1383	4049	4200	4820	2420
Other Countries	643(1)	377	22	237(2)	379(2)	295(2)	841(2)	660(2)	244	2242	962	94	1813	2483	2704	4930	5210	2605
Total	2652	4618	4871	6199	8722	8995	12500	10710	10212	8083	14916	17105	43050	58501	65878	86800	84296	110472
FROZEN FISH																		
United States	—	—	712	2601	9106	8111	7800	5409	4859	—	—	898	6937	22762	17725	19530	16980	19500
Other Countries	—	—	—	10	—	253	—	908(4)	508(4)	—	—	—	20	—	465	—	2250	1792
Total	—	—	712	2611	9106	8364	7800	6317	5367	—	—	898	6957	22762	181190	19530	19230	21292
FISH MEAL																		
United States	—	474	675	2708	3540	6048	8915	9900	8393	—	210	271	2206	3909	7080	10390	15124	13251
Other Countries (3)	—	—	—	—	202	3	—	709	1428	—	—	—	—	341	2	—	1060	2250
Total	—	474	675	2708	3742	6051	8951	10609	9821	—	210	271	2206	4250	7082	10390	16184	15501

(1) Mostly to France and Colombia; (2) Mostly to Italy and Argentina; (3) Mostly to Holland and Germany; (4) To Puerto Rico; (5) Estimates.

—Table reproduced by courtesy of The Peruvian Times, Lima, Peru.

upon the arid islands of the sea?

The fish still are there, and the birds still fish the Humboldt; but they have competition now of a sort never known to the Incas, nor to the Conquistadors.

Modern fishing vessels work the Humboldt now, sailing from ports in Ecuador, Peru and Chile, and bringing their catches back to modern freezers, efficient canneries.

They gillnet for bonito close along the coast; and bait boats work the Skipjack schools farther out. Unheralded, longliners are carefully testing the effectiveness of that gear on the big, deep-swimming tunas which have been found deep in rich seas that show no sign of tuna on the surface.

● *ALL SINCE* 1940—This is not a new fishery, but in all the centuries of the Inca civilization in pre-Columbian time; plus the 440 years since Pizzaro's days, the actual use made of the resource was infinitesimal. The problems of catching, plus those of preservation in a tropical country, kept the consumption of fish to about a ton a day in Lima and its metropolitan area in 1940. Today the consumption of fish in this same area tops 40 tons.

Early in that period the United States sent a technical assistance mission to this portion of the South American coast. The vision which saw the need and asked for this mission was actually the beginning of the new day of industrial fishing.

The mission stimulated thinking, stimulated trying, stimulated planning and financing. Then the war came; and for a time development subsided, only to be resumed more actively than ever as the necessity for food increased and the possibilities of the South American waters as a source of food for the Allied nations were realized.

It remained, however, for private investment and the sound, considered, developments of peace and peaceful markets to bring the expanding of the Humboldt Current fisheries and industrial fish packing on the western coast of South America.

● *PRODUCTS RATE HIGH*—South American operations have given canned bonito a new meaning in the markets of the world. They have given America a new import item, and the bonito canneries of Peru supply a large majority of the lunch counter sandwiches of the great population centers of the United States.

In Europe, where the tunas and tuna-like fishes hitherto have gone into antipasto or the fresh fish markets, South American canned fish since World War II have won a wide—and widening—market, in Belgium, Switzerland, and in the United Kingdom.

Growth of these markets in North America and Europe have followed the development of techniques and the application of technologies which make the most of the high quality raw material landed from the Humboldt Current.

Variations from similar materials from other areas have been found, and problems which they have in some cases presented have been overcome; just as their advantages have been capitalized upon. Today South American west coast canned fish products packed for export markets are rated high in quality—and in some cases the highest in quality for their particular categories.

● *FREEZING'S FUTURE* — Refrigeration plants have sprung up at ports all along the central portion of South America's western coast. They came into being as an essential to the development of the local and domestic fish business, because in tropical coastal countries proper refrigeration and immediate freezing is essential to distribution of fish even in the immediate vicinity of the landing.

With the rise of canning, and of fishing for the canneries, ice and refrigeration came into even wider necessity, and the plants serve as auxiliaries to canning as well as to the local domestic trade.

Finally, the freezers fit into the industrial fishery development of South America in the freezing of fish for export in that form. In this phase, at the present time, such freezing for export divides into two main categories: (a) freezing and shipping swordfish for subsequent marketing in the United States as steaks; (b) freezing and shipping tuna to the United States for subsequent canning.

Both of these practices have developed widely; and both appear to have still further growth possibilities.

More recently, shrimp fisheries have come into development, particularly along the coast of Chile; and in those waters also enterprising South American fishermen are finding populations of spiny lobsters with latent possibilities of surpassing richness.

Ray Bentley

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FOOD MACHINERY & CHEMICAL CORP.
San Jose, California

Atlantic Coast Export Agents
CHISHOLM-RYDER COMPANY, INC.
Niagara Falls, New York

Mail Address
762 BAYVIEW AVENUE
PACIFIC GROVE, CALIFORNIA
PHONE — 2-3134

Factory
119 DEWEY AVENUE
PACIFIC GROVE, CALIFORNIA
PHONE — 5-5476

SOUTH AMERICA

BREAKDOWN OF PERUVIAN FISH EXPORTS BY PRODUCTS

	1953		January - June 1954	
	Quantity Kilograms	Value Soles	Quantity Kilograms	Value Soles
Canned tuna in brine	220800	1883945	195973	1970165
Canned bonito in brine	581541	3754725	367416	3324737
Canned skipjack in brine	49463	391917	12870	120873
Canned bonito, natural	655809	4344483	421683	3598486
Canned tuna in oil	718377	6524122	1064571	12558385
Canned bonito in oil	8421840	66841161	8147651	88852774
Canned skipjack in oil	46004	387249	1755	21851
Canned sardines in oil	7662	130063	——	——
Canned sardines in tomato	8103	38023	——	——
Dried salted fish	——	——	2000	3000
Frozen tuna fish	1999434	3928296	2436046	6153328
Frozen skipjack fish	3382061	6785981	2274340	6321048
Frozen swordwish	784478	6006378	495720	5748445
Frozen shrimp	151114	2509488	160611	3059637
Fish meal	10608817	16184308	9821471	15501431
Fish oil	200134	427983	185356	328778
Whale meal	200800	378442	340281	693619
Whale oils	3592588	7086279	2094560	5505656
Fresh shellfish	40	102	——	——
TOTAL	31629065	127602945	28022304	153787213

—Table reproduced by courtesy of The Peruvian Times, Lima, Peru.

● *FACILITIES MODERN* — The canneries, the freezers, of the South American coast are modern. Most of them are new, and newly equipped. They have been built and operated according to the suggestions of thoroughly qualified technologists, and the South Americans have proven capable of their effective operation at a high standard of sanitation and workmanship.

Capacity of the industry at present is difficult to measure. Some capable observers believe that, given good fishing conditions all along the coast, the bonito canneries could have 1,000,000 cases a year.

Most of the refrigeration plants have frozen storage capacity for at least 1,000 tons each; and some for considerably more. Where shipments can be made only by reeferships, shore plant storage for considerable tonnage is necessary.

● *ACTIVE PLANTS*—While the following list probably is not altogether completed, and does not include a few small canneries devoted to packing some sardines, domestic fish specialties, and whale meat for the local markets, it represents the principal concerns actively engaged at time of writing in the coastal sector under discussion:

CHILE—Canneries

Empresa Pesquera Iquique, S.A. (Iquique), packs bonito, with capacity of 125,000 cases per year.

Small plants in vicinity of Iquique also pack specialties from marlin, anchovies and bonito for domestic consumption.

PERU—Canneries

Empresa Pesquera Ilo, S.A. (Ilo), cans bonito, with capacity from 150,000 to 200,000 cases annually.

Empresa Pesquera San Pedro, S.A. (Ilo), has capacity for canning 60,000 cases of bonito per year.

Empresa Pesquera Mollendo, S.A. (Mollendo), is capable of canning 70,000 to 80,000 cases of bonito per year.

Empresa Pesquera Naplo, S.A. (between Pisco and Callao), has annual capacity for 75,000 cases of bonito.

Industrial Pesquera, S.A. (Callao), was one of the first fish canneries in Peru and has produced as much as 2,500 cases of bonito a day.

Small canneries at Callao, 6 to 7 in number, can fish specialties for local consumption, and some for export.

Compania de Pesca Pan-American, S.A. (Callao), packs as much as 100,000 cases of bonito annually.

Empresa Pesquera Peru, S.A. (Supe), capable of canning 75,000 cases of bonito per year.

Samanco, S.A. (Samanco), is a bonito cannery with capacity for 80,000 cases in a year.

Empresa Pesquera Coishco, S.A. (Chimbote), can pack 120,000 cases of bonito per year.

Empresa Pesquera Chimbote, S.A. (Chimbote), packs bonito to the extent of 60,000 to 70,000 cases annually.

Empresa Pesquera Miramar, S.A. (Chimbote), cans about 60,000 cases of bonito per year.

Empresa Pesquera Chancay, S.A. (Chancay), packs bonito to the extent of 120,000 cases annually, and also operates a whaling plant.

CHILE—Freezers

Empresa Pesquera Iquique, S.A., Iquique.

PERU—Freezers

Empresa Pesquera Ilo, S.A. (Ilo).

Empresa Pesquera Chancay, S.A. (Chancay).

New freezers reported being installed in interests affiliated with Star-Kist Foods, Inc.

Cia. Products del Mar (Paita).

Frigorifices de Paita, S.A. (Paita).

Cia. Negocias de Ultramar, S.A. (floating).

Compania Pesquera Mancora, S.A. (floating).

Compania Navagazion y Negocios Inter-America (floating).

Compania de Pesce Altamar, S.A. (floating).

Compania Productos del Mar, S.A. (floating).

ECUADOR—Freezers

Inepaca, S.A. (Manta), shore plant with 400 tons capacity.

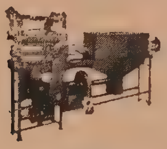
Industria Ecuatoriana Productora de Alimentos, S.A. (Aptd. Postal No. 4881, Manta), freezes shrimp.

Lorenzo Tous (Guayaquil), owns a freezing plant and operates the bait boats *Astorian* and *Palomar*.

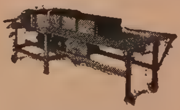
PERU—Whaling

Consorcio Ballenera (Pisco), produces whale products and also ships whale meat to Lima for human consumption.

The Most Economical Equipment for Inverting, Labeling, Casing *Engineered by Chisholm-Ryder-New Way*


JAR CLEANER

GRAVITY CASER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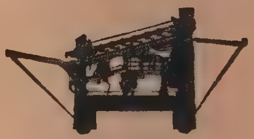
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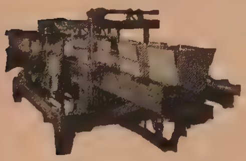
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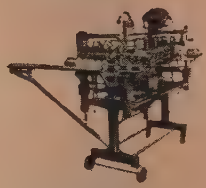
You can speed up operations and materially reduce your labor costs by equipping with CRCO-New Way equipment, right from the tray invertor on down through the labeler, caser and gluer-sealer. Trouble-free, high-speed, heavy-duty equipment.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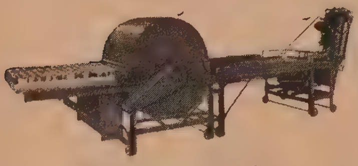
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Genuine California BOOTH'S *Crescent* Brand Oval Sardines in Tomato and Mustard Sauce

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Place Your Requirements Now With Our Local Representative Or Send Orders Direct.

F. E. BOOTH COMPANY, INC.

280 BATTERY STREET
SAN FRANCISCO, CALIFORNIA

NORTH PACIFIC ALBACORE TUNA LANDINGS

(Pounds)			YEAR	(Pounds)					(Pounds)
OREGON				WASHINGTON					Combined Oregon and Washington Totals
Columbia River	South of Columbia	Oregon TOTAL		Puget Sound	Grays Harbor	Willapa Harbor	Columbia River	Washington State, TOTAL	
			1944						
975,332	612,585	1,587,917	July	34,686	741,058	3,347	247,912	1,027,003	2,614,920
6,288,455	2,690,529	8,978,984	August	141,553	4,683,789	68,714	660,234	5,554,290	14,533,274
7,708,799	1,069,649	8,778,448	September	279,354	3,536,677	161,052	125,037	4,102,120	12,880,568
3,014,988	58,367	3,073,355	October	206,906	786,177	. . . .	14,355	1,007,438	4,080,793
17,987,574	4,431,130	22,418,704	1944 TOTALS	662,499	9,747,701	233,113	1,047,538	11,690,851	34,109,555
			1945						
. . . .	. . . .	. . . .	June	. . . .	42	. . . .	6,730	6,772	6,772
1,147,222	306,909	1,454,131	July	119,847	1,850,105	21,572	196,118	2,187,642	3,641,773
6,290,075	1,612,425	7,902,500	August	92,797	3,009,811	75,900	335,131	3,513,639	11,416,139
2,327,060	262,702	2,589,762	September	28,130	140,779	28,609	9,608	207,126	2,796,888
231,978	. . . .	231,978	October	104,491	45,882	517	. . . .	150,890	382,868
. . . .	. . . .	. . . .	November	842	44	. . . .	. . . .	886	886
9,996,335	2,182,036	12,178,371	1945 TOTALS	346,107	5,046,663	126,598	547,587	6,066,955	18,245,326
			1946						
323,331	70,559	393,899	July	172	289,029	23,505	46,995	359,701	753,591
1,741,573	629,466	2,371,039	August	24,675	778,484	33,936	148,526	985,621	3,356,660
1,155,319	30,556	1,185,875	September	165,491	624,818	. . . .	1,743	792,052	1,977,927
3,220,223	730,581	3,950,804	1946 TOTALS	190,338	1,692,331	57,441	197,264	2,137,374	6,088,178
			1947						
673,647	362,169	1,035,816	July	45,505	1,037,929	43,786	140,469	1,267,689	2,303,505
2,027,945	584,636	2,612,581	August	177,831	2,153,029	92,529	260,545	2,683,934	5,296,515
2,092,618	2,304,774	4,397,392	September	8,563	65,899	10,785	. . . .	85,247	4,482,639
817,813	310,021	1,127,834	October	25,480	32,898	. . . .	. . . .	58,378	1,186,212
5,612,023	3,561,600	9,173,623	1947 TOTALS	257,379	3,289,755	147,100	401,014	4,095,248	13,268,871
			1948						
1,990,811	652,747	2,643,558	July	62,312	1,578,549	58,561	162,821	1,862,243	4,505,801
2,723,713	962,938	3,686,651	August	390,672	3,318,286	123,892	348,561	4,181,411	7,868,062
932,365	422,249	1,354,614	September	169,900	116,808	61,822	. . . .	348,530	1,703,144
33,053	124,329	157,382	October	14,938	36,521	6,890	. . . .	58,349	215,731
5,679,942	2,162,263	7,842,205	1948 TOTALS	637,822	5,050,164	251,165	511,382	6,450,533	14,292,738
			1949						
526,928	104,676	631,604	July	31,968	654,685	32,382	51,073	770,108	1,401,712
1,625,236	519,676	2,144,912	August	825,487	2,174,227	79,840	93,094	3,172,648	5,317,560
1,301,185	923,260	2,224,445	September	6,860	287,086	. . . .	2,507	296,453	2,520,998
1,073,558	224,787	1,298,345	October	75,601	115,196	. . . .	. . . .	190,797	1,489,042
26,273	1,361	27,634	November	3,895	. . . .	. . . .	. . . .	3,895	31,529
4,553,180	1,773,760	6,326,940	1949 TOTALS	943,811	3,231,194	112,222	146,674	4,433,901	10,760,841
			1950						
1,430,466	233,420	1,663,886	July	152,213	1,506,955	130,851	365,227	2,155,246	3,819,132
1,114,353	787,569	1,901,922	August	317,068	1,563,558	78,253	108,101	2,066,980	3,967,902
254,458	241,514	495,972	September	34,672	7,293	. . . .	. . . .	41,965	537,937
1,046,105	171,781	1,217,886	October	. . . .	22,084	. . . .	. . . .	22,084	1,239,970
210,851	. . . .	210,851	November	. . . .	. . . .	. . . .	. . . .	. . . .	210,851
4,056,233	1,434,284	5,490,517	1950 TOTALS	503,953	3,099,890	209,104	473,328	4,286,275	9,776,792
			1951						
25,527	15,656	41,183	July	. . . .	52,442	1,520	. . . .	53,962	95,145
186,450	30,336	216,786	August	20,528	88,817	18,121	1,098	128,564	345,350
667,145	635,503	1,302,648	September	21,106	171,236	34,712	. . . .	227,054	1,529,702
1,012,583	241,741	1,254,324	October	92,355	19,554	. . . .	. . . .	111,909	1,366,233
90,878	10,726	101,604	November	. . . .	. . . .	. . . .	. . . .	. . . .	101,604
1,982,583	933,962	2,916,545	1951 TOTALS	133,989	333,049	54,353	1,098	521,489	3,438,034
			1952						
10,050	3,944	13,994	July	...	515	...	...	515	14,509
8,039	115,060	123,099	August	...	1,997	3,642	...	5,639	128,738
284,663	1,014,502	1,299,165	September	8,269	31,840	14,138	...	54,247	1,353,412
792,615	47,424	840,039	October	41,733	48,109	....	...	89,842	929,881
252,102	4,364	256,466	November	22,308	...	...	...	22,308	278,774
52,591	...	52,591	December	...	4,512	...	...	4,512	57,103
1,400,060	1,185,294	2,585,354	1952 TOTALS	72,310	86,973	17,780	...	177,063	2,762,417
			1953						
21,378	...	21,378	August	...	620	...	...	620	21,998
60,238	505,950	566,188	September	1,062	2,515	...	...	577	569,765
145,034	39,912	184,946	October	18,426	14,211	...	...	32,636	217,583
...	1,000	1,000	November	...	...	...	...	...	...
226,650	546,862	773,512	1953 TOTALS	19,488	17,346	...	...	36,834	809,346
			1954						
33,054	65,898	98,952	September	344	8,773	...	...	9,117	108,069
262,381	84,788	347,169	October	100,358	2,634	...	...	102,992	450,161
8,115	2,122	10,237	November	15,804	10,181	...	...	25,985	36,222
...	...	...	December	13,231	...	...	...	13,231	13,231
303,550	152,808	456,358	1954 TOTALS	129,737	21,588	...	...	151,325	607,683

GUY V. GRAHAM of Seattle, president of the Association of Pacific Fisheries; vice president of Libby, McNeill & Libby in charge of salmon operations.

GILBERT C. VAN CAMP Jr., of California, executive vice president of Van Camp Sea Food Co., Inc.

THOMAS REID of British Columbia, senator of Canada; member of the International Pacific Salmon Fisheries Commission from its inception.

VIRGILIO AGUILUZ of Costa Rica, chairman of the Inter-American Tropical Tuna Commission.

CALIFORNIA PACK OF CANNED TUNA AND RELATED FISHES

YEAR	SAN PEDRO DISTRICT								(Cases) SAN DIEGO DISTRICT								San Francisco & Monterey	GRAND TOTAL	YEAR
	Yellow-fin	Bluefin	Skipjack	Albacore	Flakes	Tonno	Tunalike (Bonito & Yellowtail)	TOTAL	Yellow-fin	Bluefin	Skipjack	Albacore	Flakes	Tonno	Tunalike (Bonito & Yellowtail)	TOTAL			
1926	122,968	67,525	189,581	43,660	11,786	90,689	47,710	573,919	96,363	2,758	85,389	14,555	4,162	40,864	15,416	259,507	......	833,426	1926
1927	185,423	40,363	155,755	105,598	7,816	197,275	26,660	718,890	200,635	9,645	226,420	20,481	435	10,221	20,147	487,984	......	1,206,874	1927
1928	323,813	85,994	64,061	99,093	7,577	106,038	14,759	701,335	287,770	46,348	130,430	658	9,156	11,783	9,798	495,943	......	1,197,278	1928
1929	199,292	67,091	128,436	130,212	7,707	88,454	49,943	671,135	458,687	22,637	218,696	2,426	10,906	31,351	13,027	757,730	......	1,428,865	1929
1930	262,278	302,660	82,282	143,748	11,508	57,110	73,049	932,635	739,616	6,944	185,848	1,783	18,053	17,875	17,635	987,754	......	1,920,389	1930
1931	182,115	46,462	166,091	144,796	12,850	35,514	37,289	625,117	431,229	.....	112,307	177	6,591	706	3,006	554,016	......	1,179,133	1931
1932	275,263	8,510	101,626	52,215	11,517	42,247	34,348	525,726	403,050	177	203,381	.....	4,774	.....	10,881	622,263	13,162	1,161,151	1932
1933	258,982	7,580	74,728	49,391	10,907	41,200	19,281	462,069	678,810	1	198,313	.....	2,183	.....	50,797	930,104	......	1,392,173	1933
1934	317,846	325,350	71,350	82,182	22,402	55,163	38,961	913,254	780,066	6,683	195,798	.....	8,100	.....	23,409	1,014,056	......	1,927,310	1934
1935	306,202	413,630	88,746	107,501	33,909	81,660	108,203	1,139,851	948,276	24,871	249,747	4,648	7,749	545	101,039	1,336,875	......	2,476,726	1935
1936	343,234	311,987	184,930	53,849	9,906	57,797	85,404	1,047,107	1,074,811	22,390	295,330	35	14,967	740	131,802	1,540,075	......	2,587,182	1936
1937	416,611	188,432	276,165	83,123	34,534	136,612	88,870	1,224,347	1,165,866	27,103	487,751	8,036	15,904	1,125	88,182	1,793,967	......	3,018,314	1937
1938	273,365	273,358	151,081	265,034	47,092	67,404	119,270	1,196,604	1,010,814	49,840	221,917	24,355	17,384	.....	77,818	1,402,128	......	2,598,732	1938
1939	578,727	191,456	212,042	281,666	41,104	70,022	151,241	1,526,258	1,348,565	27,020	257,528	46,372	31,136	7,318	32,463	1,750,402	28,637	3,305,297	1939
1940	536,391	267,343	306,447	122,484	85,459	124,094	106,225	1,548,443	1,469,428	45,867	529,776	19,304	141,861	60,138	49,624	2,315,998	3,953	3,868,394	1940
1941	308,886	136,333	109,563	73,024	40,545	33,530	161,835	863,716	1,016,759	32,369	323,466	10,145	130,004	308	144,331	1,657,382	9,071	2,530,169	1941
1942	214,391	250,685	128,980	128,670	39,880	23,479	34,542	820,627	545,517	28,413	590,594	104,578	111,096	.....	35,138	1,415,336	6,257	2,242,220	1942
1943	303,881	162,844	88,203	187,052	120,548	17,239	96,595	976,362	392,114	12,021	294,964	227,347	381,967	.....	12,298	1,320,711	11,342	2,308,415	1943
1944	341,687	357,531	105,863	125,632	234,639	15,365	20,817	1,201,534	485,796	16,473	257,994	307,806	530,368	.....	7,521	1,605,958	1,685	2,809,177	1944
1945	460,982	275,116	89,279	148,286	452,292	16,198	34,628	1,476,781	1,037,009	22,742	458,895	329,251	96,162	.....	32,524	1,976,583	3,078	3,456,442	1945
1946	663,814	304,248	202,729	141,629	558,026	....	88,589	1,959,035	1,549,557	28,753	445,560	233,622	268,767	.....	63,762	2,590,021	6,341	4,555,397	1946
1947	765,426	342,309	209,281	104,726	417,644	7,403	308,540	2,155,329	1,875,087	6,557	695,170	145,300	323,511	26,359	68,927	3,140,911	61,258	5,357,498	1947
1948	969,732	94,190	200,693	290,811	477,769	22,663	270,404	2,326,608	2,364,819	1,991	729,505	462,255	366,828	.....	39,420	3,964,818	55,526	6,346,952	1948
1949	614,847	38,142	157,373	289,063	1,330,358	78,821	49,195	2,557,799	2,059,468	2,889	904,793	535,013	420,491	4,038	24,884	3,951,576	81,021	6,590,396	1949
1950	742,815	14,786	266,809	586,683	2,456,705	202,368	14,595	4,284,761	913,458	3,300	495,462	482,894	1,898,568	54,988	7,741	3,856,411	143,273	8,141,172	1950
1951	611,673	...	...	337,456	2,670,876	104,235	77,229	3,801,469	974,469	...	...	269,774	2,122,698	58,042	10,260	3,435,243	293,873	7,530,585	1951
1952	3,089,057	...	...	814,198	1,216,024	86,948	196,453	5,402,680	1,354,515	...	...	509,385	459,840	45,328	34,234	2,403,302	296,860	8,102,842	1952
1953	3,009,258	*	*	1,097,602	1,179,273	122,091	100,252	5,508,476	1,723,934	*	*	500,615	516,922	53,911	69,866	2,865,248	250,385	8,624,109	1953
1954	4,808,472	*	*	1,258,402	*	*	28,057	6,094,931	2,872,794	*	*	435,275	*	*	48,813	3,356,882	...	9,451,813	1954

* Segregation of lightmeat tuna pack as to species, and amounts of chunks, flakes and tonno not available at presstime. Accordingly, all lightmeat tuna and special packs made from lightmeat have been shown under Yellowfin. Albacore totals also include chunks, flakes and tonno packed from this species. Quantities given are in standard cases of 48 halves.

VALUE OF PRINCIPAL CANNED FISH PRODUCTS

Year	PACIFIC SALMON			SARDINES		Pacific Tuna	Mackerel	Oysters	Shrimp	Clams	Crabs	Miscellaneous Fish Products	GRAND TOTAL
	Pacific Coast States	Alaska	Total	New England States	California								
1921-25*	$11,060,592	$29,457,922	$40,518,514	$5,781,523	$4,428,409	$5,751,385	....	$2,704,433	$3,928,434	$1,721,051	$71,087	$1,552,481	$66,457,317
1926-30*	12,772,490	38,329,082	51,101,572	6,281,996	9,494,787	8,990,774	$979,927	2,344,887	5,022,925	2,517,544	36,729	2,703,368	89,474,509
1930-35*	7,301,890	28,513,777	35,815,667	2,974,505	4,519,462	8,646,033	2,117,791	1,392,686	3,836,331	2,242,896	109,235	2,649,056	64,303,662
1936	5,309,438	44,751,633	50,061,071	5,740,454*	7,302,273	14,715,391	3,542,895	2,180,869	4,672,198	2,976,297	130,753	3,242,053	94,564,254
1937	8,386,165	44,547,769	52,933,934	4,998,373	8,592,117	18,995,779	2,673,608	2,932,681	7,130,747	3,013,446	269,699	3,634,551	105,174,935
1938	5,728,892	36,636,897	42,365,789	2,367,045	7,102,358	15,183,636	2,896,220	1,886,476	4,872,393	3,189,628	260,134	3,322,210	83,445,889
1939	7,339,727	34,441,122	41,780,849	7,075,096	9,553,663	20,079,567	2,588,695	2,378,945	5,397,662	3,798,319	259,756	3,714,998	96,627,550
1940	6,575,176	31,474,492	38,049,668	3,736,394	8,975,257	23,727,560	4,101,369	2,526,859	4,318,325	3,778,363	308,890	4,659,256	94,181,941
1941	11,199,317	56,217,601	67,416,918	12,590,958	18,091,873	19,397,887	3,503,718	2,997,114	4,882,544	3,711,029	547,617	5,659,466	138,684,157
1942	13,673,968	48,300,209	61,974,177	12,162,451	15,509,964	30,742,493	3,693,082	3,598,703	7,347,330	3,791,058	1,755,065	4,893,094	144,996,947
1943	5,110,847	57,824,267	62,935,114	11,104,570	14,352,359	31,430,189	5,271,203	2,821,556	5,360,647	2,802,420	1,194,483	4,334,350	141,188,792
1944	5,187,136	51,196,140	56,383,276	14,819,803	15,225,919	40,836,117	7,033,997	2,283,429	4,854,799	3,820,612	1,361,458	6,983,036	152,914,237
1945	7,942,102	44,644,303	52,586,405	12,077,201	15,346,472	47,407,451	4,046,691	2,029,953	1,918,633	7,391,098	883,767	9,669,714	152,800,571
1946	17,003,459	53,157,194	70,160,653	20,275,590	19,895,649	59,135,823	7,575,291	5,249,272	8,428,735	11,145,047	4,720,119	21,770,334	227,629,455
1947	31,969,134	88,669,542	120,638,676	28,310,674	16,538,375	90,609,175	15,018,633	4,259,485	8,192,004	8,642,235	2,705,391	16,398,742	310,678,920
1948	24,008,466	96,528,730	120,537,196	29,359,114	21,892,893	112,612,296	9,850,834	4,777,531	7,791,313	8,329,639	4,846,494	18,621,357	336,181,479
1949	22,167,812	81,263,168	103,430,980	21,051,675	21,334,825	97,710,325	6,848,930	6,525,207	11,203,325	8,779,018	3,490,885	15,128,735	295,503,905
1950	27,187,060	81,403,511	108,590,571	21,209,033	26,345,609	112,830,094	7,491,815	7,362,831	12,916,397	10,839,889	3,214,713	19,562,101	330,362,853
1951	29,388,514	79,237,355	108,625,869	14,635,352	19,362,744	96,540,290	6,259,222	6,154,235	12,362,599	11,773,909	3,693,490	21,802,585	301,210,295
1952	21,906,773	76,357,016	98,263,789	21,502,970	918,072	108,719,986	11,362,697	7,047,441	13,223,865	12,209,558	2,087,019	30,493,801	305,829,198
1953	24,067,839	58,172,629	82,240,468	16,954,119	8,314,304**	124,553,249	5,038,512	6,559,309	18,946,622	12,629,803	2,898,016	53,501,196	306,873,674

* Average.

** Includes Anchovies valued at $7,661,173.

Here's How to
Off the Shelf

DIAMOND A
DICED BEETS
OLYMPIA
TREESWEET
Libby's
Pacific Pearl
DOLE
FRUIT
Vanilla
Schilling
TEA GARDEN
CHURCH'S
Naturally Sweet
NO SUGAR ADDED
CLAPP'S
PEAS
Lindsay
MAMMOTH
OLIVES
Gebhardt's
TAMALES WITH CHILI GRAVY
GHIRARDELLI
CHOCOLATE
BEEF STEW
BRANDY

Del Monte
APPLE

Get Your Products and Into the Basket...

...Dress them up with Schmidt Labels Lithographed or Foil Gravure Printed

When you lay a label problem in our lap, we start with our eye on Sales and the Shopping Basket. For Sales and the Shopping Basket are the goals of today's labels.

Impulse sales account for big volume, especially in the food store. And it's the label that creates the impulse.

In developing your label we work closely with you and your product. We study the product from every angle... your competition, how and where the product is displayed in the store, what the dealer thinks, every factor that has a bearing on your sales.

This is the kind of label teamwork that has kept on our customer list so many top names in the food industry.

If you're bothered right now with label problems, call us in and unload your worries on us. We thrive on them.

Schmidt *LITHOGRAPH COMPANY*

SAN FRANCISCO • LOS ANGELES • OAKLAND
FRESNO • SACRAMENTO • HONOLULU, T. H. • SEATTLE • PORTLAND • DENVER
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S. L. 5 REV.

THIS INSERT PROCESSED WITH
SCHMIDT "LUSTERCOAT"
HIGH GLOSS LACQUER

CALIFORNIA CANNED FISH PACKS

YEAR	Albacore Cases	Tuna-Bluefin Cases	Tuna-Skipjack Cases	Tuna-Yellowfin Cases	Tuna-Chunks, Flakes	Tuna-Tonno Cases	Bonito Cases	Yellowtail Cases	Mackerel Cases	Salmon Cases	Sardine Cases	Shad Cases	Squid Cases	Pet Food Cases	Misc. Cases	TOTAL CASES	YEAR
1926	66,001	70,283	274,970	165,561	8,162	131,553	44,186	18,940	550	11,761	2,163,755	....	23,536	....	63,794	3,043,052	1926
1927	126,699	50,008	382,175	366,395	7,631	207,496	22,277	24,530	10,961	8,435	2,625,412	6,485	....	....	44,396	3,882,900	1927
1928	99,751	132,342	194,491	503,077	16,733	117,821	18,900	5,657	388,471	4,585	2,815,330	7,475	2,056	....	124,809	4,431,498	1928
1929	132,638	89,728	347,132	612,810	18,613	119,805	47,674	15,296	611,503	5,503	3,941,459	9,791	6,056	....	53,925	6,012,433	1929
1930	145,531	309,604	268,130	878,382	29,561	74,985	69,341	21,343	127,333	11,202	3,069,524	1,796	25,271	....	127,236	5,159,239	1930
1931	144,973	46,462	278,398	613,344	19,441	36,220	38,254	2,041	101,217	14,070	1,794,991	....	19,827	44,372	4,855	3,158,465	1931
1932	65,377	8,687	305,007	678,313	16,291	42,247	42,114	3,115	89,176	2,005	1,001,845	201	....	67,256	50	2,323,052	1932
1933	49,391	7,581	273,041	937,792	13,090	41,200	36,560	33,518	760,126	3,076	1,422,860	....	1,740	112,725	1,369	3,698,293	1933
1934	82,182	332,411	267,328	1,097,912	30,502	55,163	52,554	9,816	1,214,491	820	2,051,726	....	4,257	80,224	1,104	5,324,084	1934
1935	112,149	438,501	338,493	1,254,478	41,658	82,205	128,065	81,177	1,761,186	874	2,529,262	5,039	8,781	122,826	2,269	6,920,625	1935
1936	53,884	334,377	480,260	1,418,045	24,873	58,537	104,078	112,128	1,228,348	....	2,820,742	13,124	12,282	128,384	5,178	6,803,815	1936
1937	91,159	215,535	763,916	1,582,477	50,438	137,737	129,572	47,480	793,780	147	2,983,204	6,361	5,531	179,230	100	6,986,616	1937
1938	289,389	324,198	372,998	1,284,179	64,476	67,404	125,854	71,234	958,890	....	2,443,469	11,244	20,167	287,403	545	6,341,557	1938
1939	356,675	218,476	469,570	1,927,292	72,240	77,340	159,090	24,614	968,718	....	3,326,162	12,665	23,926	384,427	150	8,021,345	1939
1940	145,741	313,210	836,223	2,005,819	227,320	184,232	87,367	68,482	1,435,113	....	3,188,089	15,743	34,603	832,091	100	9,374,133	1940
1941	92,240	168,702	433,029	1,325,645	170,549	33,838	176,859	129,307	843,747	1,125	5,395,284	68	21,587	1,027,903	16	9,820,485	1941
1942	239,505	279,098	719,574	759,908	150,976	23,479	32,288	37,392	614,090	....	3,846,785	24,945	941	197,403	....	6,941,643	1942
1943	425,741	174,865	383,167	696,209	502,515	26,599	35,625	73,268	839,312	1,475	3,400,106	11,516	119,237	....	11,131	6,699,736	1943
1944	435,123	374,004	363,857	827,483	757,800	15,365	8,490	19,848	986,422	1,691	3,725,657	12,541	141,808	....	45,206	7,738,949	1944
1945	480,615	297,858	548,174	1,497,991	548,454	16,198	49,816	17,336	589,617	5,457	3,884,582	....	184,141	....	225,971	8,346,210	1945
1946	381,271	333,001	648,289	2,213,692	826,793	....	108,306	44,045	716,668	9,817	3,102,232	589	643,843	....	56,689	9,085,235	1946
1947	286,272	370,893	904,451	2,642,354	742,038	33,762	243,994	133,734	1,522,199	18,754	1,814,050	1,778	229,967	1,087,040	199,115	10,230,401	1947
1948	797,035	98,473	930,235	3,335,759	850,760	22,663	158,253	153,428	971,646	22,786	3,203,028	2,477	369,762	1,153,802	204,741	12,274,848	1948
1949	861,737	46,336	1,068,215	2,694,947	1,762,223	82,859	20,312	53,767	924,104	1,801	4,286,034	893	88,217	1,249,366	20,265	13,161,076	1949
1950	1,125,463	11,186	734,528	1,632,625	4,497,839	257,356	8,263	14,073	1,410,541	4,279	5,430,439	1,948	84,675	2,060,709	85,827	17,359,751	1950
1951	607,230	....	....	1,586,142	4,793,574	162,277	14,356	87,489	1,040,300	1,266	3,052,642	1,078	224,884	1,593,176	431,465	13,595,879	1951
1952	962,063	....	....	1,547,310	5,443,228	129,502	46,509	181,261	1,573,745	3,115	109,633	1,375	1,616	1,751,006	724,522	12,474,885	1952
1953	1,215,362	...	...	1,352,438	5,710,186	176,002	69,638	100,480	598,305	4,931	64,084	4,911	166,612	1,692,796	1,202,769	12,358,514	1953

Bluefin, Skipjack and Yellowfin are combined under Yellowfin from 1951.

1954 -San Pedro-Santa Monica Area Fresh Fish Landings-1954

SPECIES	POUNDS												
	Nov. 1953	Dec. 1953	Jan. 1954	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
Anchovy	...	...	355	2,160	12,225	7,138	4,570	3,650	2,996	1,573	2,945	5,845	43,457
Barracuda	79	12,977	5,199	87,574	90,227	149,188	138,338	46,113	56,384	45,717	2,856	112,139	746,791
Cabrilla	12,675	9,005	...	40,405	9,349	...	756	27,775	10,882	...	3,567	1,865	116,279
Grouper	46,493	60,932	21,322	113,196	24,858	25,555	4,917	6,253	2,498	1,317	3,740	9,433	320,514
California Halibut	6,840	7,283	2,912	19,301	24,553	13,190	16,872	5,520	27,961	24,499	2,587	7,894	159,412
Flounder (Starry)	...	...	...	...	...	...	...	...	89	...	...	...	89
Jack Mackerel	10,275	...	2,875	3,685	11,105	35,912	42,543	22,906	100	22,198	...	310	151,909
Kingfish	4,027	10,243	9,513	17,444	33,294	61,891	57,126	3,385	4,726	2,741	2,579	3,729	210,698
Mackerel	69,938	1,828	17,496	26,150	99,856	112,692	99,107	103,452	118,865	79,612	51,781	58,216	838,993
Perch	5,002	5,251	1,682	4,205	3,432	5,014	7,009	1,800	2,254	3,609	2,711	2,624	44,593
Pilchard	220,520	18,602	55,415	45,289	17,749	42,632	123,041	216,525	205,696	229,270	291,259	335,819	1,801,817
Pompano	...	...	...	...	266	769	144	606	263	245	50	50	2,343
Rock Bass	...	...	335	40	...	...	...	1,145	14	260	...	110	1,904
Rock Fish	14,020	14,618	20,168	35,649	46,029	45,262	21,326	10,366	16,960	6,325	9,967	15,207	255,897
Sablefish	20	...	...	47	20	...	...	...	...	...	1,082	207	1,376
Sand Dabs	2,186	1,127	1,421	1,316	1,861	2,186	1,067	1,429	1,144	1,504	1,496	2,473	19,210
Sculpin	5	...	...	...	...	217	1,573	6,965	5,408	6,634	246	147	21,195
Sea Bass: Black	64,616	72,976	13,585	38,416	6,898	4,997	12,380	57,553	4,718	2,034	13,750	20,820	312,743
White	26,935	15,835	...	4,624	1,887	21,813	50,579	47,964	55,211	170,305	90,407	54,773	540,333
Shark	1,196	4,118	3,573	4,837	4,663	6,477	7,813	6,004	4,983	4,258	3,023	8,840	59,785
Sheepshead	64	50	494	...	72	168	...	...	350	65	...	45	1,308
Sole (All varieties)	...	910	1,123	1,253	...	...	...	131	...	...	...	...	3,417
Skate	257	4,491	2,825	1,153	46	670	304	640	132	...	33	30	10,581
Smelt	2,282	7,853	11,097	4,639	11,822	6,643	5,851	419	800	597	1,820	960	54,783
Swordfish	...	...	...	...	...	...	...	...	145	...	...	...	145
Tuna: Albacore	358	...	...	...	...	...	...	...	9,507	6,042	5,123	5,659	26,689
Bonito	250	1,516	300	190	185	31	154	131	...	3,094	...	2,787	8,638
Bluefin	3,309	10,717	...	74,658	...	27,427	18,570	113,869	117,494	84,229	...	40,595	490,868
Yellowfin	...	...	...	...	16,745	29,935	2,607	...	...	...	...	...	49,287
Yellowtail	20,188	35,033	8,345	11,944	2,825	36,196	11,951	2,320	124	1,324	849	1,106	132,205
Abalone	455	...	112	...	...	3,225	7.875	6,750	1,000	...	...	875	20,292
Octopus	...	...	...	...	104	90	200	...	...	...	...	19	413
Spiny Lobster	20,013	18,924	20,011	10,367	8,571	...	...	...	...	...	...	30,968	108,854

Tenor of salmon selling through 1954 was healthy, with a steady, upward-trending course; upward moderately in price, and strongly in volume and in business character.

- Business of selling canned salmon in 1954 achieved qualities of steadiness, soundness and fundamental merchandising beyond anything in the recollection of experienced factors themselves, and of those who watch them work—often with acute interest of financial character.

From the standpoint of the packer: goods sold steadily and in good volume throughout the year; and generally at prices which rose as available stocks were reduced. They were not the highest prices known, true; but they were near those unofficial ceilings beyond which consumer revulsion sets-in.

From the broker's point-of-view: the year's experience was generally gratifying. There was virtually no trouble from loose consignments. "Deals" were at a minimum; and "advertising allowances" were for advertising to a greater degree than usual. There were no wild vagaries of price; no cutting

INITIAL PRICES FOR CANNED SALMON

(Per case of 48 cans. Prices in dollars and decimals)

YEAR	Chinook Columbia Riv. Fancy	Sockeye Puget Sound	Red Alaska		King Alaska	Coho — Medium Red		Pink		Chum	
	Halves	Halves	Talls	Halves	Talls	Talls	Halves	Talls	Halves	Talls	Halves
1910	$4.4	$4.4	$5.4	$4.	$5.4	$5.	$3.2	$3.2	...	$3.1	...
1911	5.2	5.2	6.4	4.5	7.2	5.8	4.	4.	$3.2	3.8	$3.
1912	5.	5.2	5.6	4.6	5.6	4.6	3.2	2.6	2.2	2.5	2.
1913	5.	4.2	4.6	3.8	4.	3.4	2.8	2.6	2.2	2.2	2.
1914	5.	5.4	5.8	4.4	5.6	4.6	3.3	3.6	2.8	3.4	2.6
1915	5.	5.4	6.	4.6	5.	4.6	3.	3.	2.3	2.8	2.1
1916	5.	5.6	6.	4.8	5.4	5.2	3.6	3.6	3.	3.4	2.7
1917	7.	7.	9.4	6.6	9.	8.	5.4	6.6	4.6	6.4	...
1918	8.	8.	9.4	6.6	9.	9.6- 9.	6.4	6.6	4.6	7. - 6.4	4.4
1919	8.	10.	13.	9.	12.5	12.	8.	9.	5.6	8.6	5.
1920	10.	12.	13.	9.	12.	8.	6.	6.	4.4	4.6	3.6
1921	8.4	10.	9.4	8.	7.	6.	3.8	4.4	3.2	4.	2.6
1922	13.	10.	9.	7.	7.	5.	4.	4.6	3.2	4.2	2.8
1923	10.	10.	9.	6.6	8.	5.6	4.	5.	3.6	4.8	3.4
1924	8.8	9.	9. -10.	6. - 7.	8.6 - 8.4	7. - 6.	5.4- 4.2	5.2- 5.	3.6	4.8	3.4
1925	8.4	9.4 -10.	14.	9.	13. -12.	11. -10.	7.4- 7.	5.8- 5.	4. - 4.4	4.6- 4.4	3.6- 3.4
1926	9.4	10.	10.	8.	9.	9.	6.	5.4	4.2	5.	3.6- 3.2
1927	9.4	11.	12.4	9. - 8.6	11.4 -10.6	10. - 9.	6.6- 6.	6. - 5.4	4.6- 4.4	5.4- 5.2	3.8
1928	9.8	10.4	9.4	7.4	8.6 - 8.	7.4- 7.	5.4	6.6	4.4	6.4	4.
1929	10.4-10.	10.	10.6	8.	9.	8. - 7.4	5.6- 5.4	6.	4.4	5.4	4.
1930	10.	8.	12.4	8.	10.6	9.	5.6	4.	3.	3.6	2.8
1931	8.	8.	9.4	6.6	7.	7. - 6.4	4.8- 4.6	3.4	2.8	3.2	2.6
1932	6.	6. - 5.	5.8- 5.	4.	4.4	4.	3.2- 3.	3.4- 3.	2.4	3. - 2.8	...
1933	7.6- 7.	7. - 6.6	7. - 6.6	4.8	6.	5.4	...	4.8	3.	4.6	2.8
1934	7.2	5.4	6.8- 6.4	4.8- 5.	5.4	5.	4. - 3.8	4.2- 4.	3.2	4. - 3.8	3.
1935	7.2- 7.	7.	9.4- 9.	6.6- 6.4	8. - 7.	6.6	4.4	4.2- 4.	3.2	4. - 3.8	3.
1936	8.	7.	8. - 7.6	6.	7.	6.6- 6.4	4.4	4.	3.4- 3.	3.7- 3.6	3. - 2.8
1937	8.4	8.4	10.	6.8	9.	8.	5.	5.	3.4	4.8	3.2
1938	9.2- 8.4	7.	7.8- 7.4	5.6	7.6 - 6.8	6.4	5.	4.	3.	3.8- 3.6	2.8
1939	9.2- 8.6	8.	9. - 8.6	6.7- 6.4	8.4	7. - 6.4	5. - 4.8	5.2- 5.	3.6- 3.4	4.6	3.2
1940	9.	8.4	9.6	6.6	9.2	7.4	4.8	5.4	3.8	4.8	3.4
1941	10.4	10.	13.6-13.4	8.2	12.	...	7.	7.	4.8- 4.4	6.8	4.6- 4.2
1942	13.	11.4	15.	10.	...	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1943	13.	11.4	15.	10.	14.	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1944	13.	11.4	15.	10.	14.	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1945	13.	11.4	15.	10.	14.	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1946	18.5	19.	22. -20.	16.5-13.4	20.	17. -16.	11.6	12.	8.4	11.6- 9.4	8.
1947	20. -19.	22. -19.	24.5-22.6	17.5-16.	22. -21.4	22.	15.4-15.	19. -17.2	13.5-11.5	18.5-16.5	12.5-11.1
1948	23.5-22.	22.	27. -26.	19. -18.	26. -24.	25.	17.5-15.	23. -22.	15. -13.	20. -22.	13.5-12.
1949	20. -18.	...	26.5-25.	16. -15.	24. -22.	22. -21.	12.5	16.	10.	15.	9.5- 9.
1950	19. -21.	19. -20.	28. -29.	18.	23.	19. -22.	15.5	22. -24.	15.	20. -21.1	12.
1951	21. -23.	19. -21.	29. -31.	18.	26.	25.	15.	21.	12.5	18.	11.
1952	22. -23.	20. -19.	27. -30.	17.5-18.	25.	21. -22.	12. -13.	18. -20.	12.	16.	9.
1953	20. -21.	18.5-17.5	27.	17.	24.	20.	12.	18.	10.2-10.5	14.	8. -8.5
1954	20. -21.	18.5-16.5	28. -29.	16. -18.	25.	23.	13.5	20.	12.5-13.	15.	9.

NOTE: The title of this tabulation has been changed from "OPENING PRICES" to "INITIAL PRICES," and the prices of pre-war years — originally quoted per dozen each are converted to the per case basis which is now in general use.

The prices are quoted in dollars and decimals thereof, rather than in dollars and cents; and are based largely on formal "opening prices" announced as such by leading sellers, they are not limited exclusively to such quotations. The formal "opening prices" of different concerns are often incomplete, and vary so widely that a full presentation of them might be confusing. The purpose of this tabulation is to present comprehensively for each year the earliest prices at which substantial quantities of the pack were sold.

The prices here quoted for the war years are the "ceilings" established by the government. Those for 1946 are the prices announced by the majority of large packers after "de-control."

Fishermen's Packing Corporatio

CANNERS OF PUGET SOUND SALMON

SOCKEYE

Snow Cap
Snowland

COHOE

Olympic
Green Breaker

PINK

Waterfall
Ocean Spray

CHUM

Golden West
Golden Glow

FISHERMEN'S PACKING CORP.

SNOW CAP
BRAND
PUGET SOUND
SOCKEYE SALMON
GREEN BREAKER
SELECTED OCEAN CAUGHT
COHOE SALMON
Waterfa
BRAND
PINK
SALMO
WEIGHT OF CONTENTS 1 POU

OFFICE AND CANNE
ANACORTES, WASHINGT

Fraser River-Puget Sound Sockeye Pack, by Cycles

British Columbia	1895—	395,984	1896—	356,984	1897—	860,459	1898—	256,101	British Columbia
Washington		65,143		72,979		312,048		252,000	Washington
TOTAL		461,127		429,963		1,172,507		508,101	TOTAL
British Columbia	1899—	480,485	1900—	229,800	1901—	928,669	1902—	293,477	British Columbia
Washington		499,646		228,704		1,105,096		339,556	Washington
TOTAL		980,131		458,504		2,033,765		633,033	TOTAL
British Columbia	1903—	204,809	1904—	72,688	1905—	837,489	1906—	183,007	British Columbia
Washington		167,211		123,419		837,122		182,241	Washington
TOTAL		372,020		196,107		1,674,611		365,248	TOTAL
British Columbia	1907—	59,815	1908—	74,574	1909—	585,435	1910—	150,432	British Columbia
Washington		96,974		170,951		1,097,904		248,014	Washington
TOTAL		156,789		245,525		1,683,339		398,446	TOTAL
British Columbia	1911—	58,487	1912—	123,879	1913—	719,796	1914—	198,183	British Columbia
Washington		127,761		184,680		1,673,099		335,230	Washington
TOTAL		186,248		308,559		2,392,895		533,413	TOTAL
British Columbia	1915—	91,130	1916—	32,146	1917—	148,164	1918—	19,697	British Columbia
Washington		64,584		84,637		411,538		50,723	Washington
TOTAL		155,714		116,783		559,702		70,420	TOTAL
British Columbia	1919—	38,854	1920—	48,399	1921—	39,631	1922—	51,832	British Columbia
Washington		64,346		62,654		102,967		48,566	Washington
TOTAL		103,200		111,053		142,598		100,398	TOTAL
British Columbia	1923—	31,655	1924—	39,743	1925—	35,385	1926—	85,689	British Columbia
Washington		47,402		69,369		112,023		44,673	Washington
TOTAL		79,057		109,112		147,408		130,362	TOTAL
British Columbia	1927—	61,393	1928—	29,299	1929—	61,569	1930—	103,692	British Columbia
Washington		97,594		61,044		111,898		352,194	Washington
TOTAL		158,987		90,343		173,467		455,886	TOTAL
British Columbia	1931—	40,947	1932—	65,769	1933—	52,465	1934—	139,238	British Columbia
Washington		87,211		81,188		126,604		352,579	Washington
TOTAL		128,158		146,957		179,069		491,817	TOTAL
British Columbia	1935—	62,822	1936—	184,854	1937—	100,272	1938—	186,794	British Columbia
Washington		54,677		59,505		60,259		134,641	Washington
TOTAL		117,499		244,359		160,531		321,435	TOTAL
British Columbia	1939—	54,296	1940—	99,009	1941—	171,290	1942—	446,371	British Columbia
Washington		43,511		59,354		110,605		263,458	Washington
TOTAL		97,807		158,363		281,895		709,829	TOTAL
British Columbia	1943—	31,973½	1944—	88,515	1945—	79,781½	1946—	331,292	British Columbia
Washington		19,179		37,509		53,054½		280,018	Washington
TOTAL		51,152½		126,024		132,836		611,310	TOTAL
British Columbia	1947—	27,857	1948—	61,650	1949—	80,629	1950—	81,510	British Columbia
Washington		7,516		90,441		80,547		116,458	Washington
TOTAL		35,373		152,091		161,176		197,968	TOTAL
British Columbia	1951—	134,400	1952—	115,814	1953—	176,097	1954*	480,000	British Columbia
Washington		118,151		114,638		178,323		485,000	Washington
TOTAL		252,551		230,452		354,420		965,000	TOTAL

* Figures for 1954 are approximate. Statistics represent 48-lb. cases of Sockeyes caught in the Fraser River district of British Columbia and adjacent waters of the state of Washington, whether canned in those districts or elsewhere – and not including other Sockeye canned in those districts. This accounts in large part for the discrepancy between these statistics and those appearing elsewhere in this issue.

to crippling levels; no mark-ups to the place where business stops.

From the buyer's angle: salmon was offered with the backing of a promotion campaign which clicked cleanly from the start; while pricing was realistic and competition businesslike.

Even the consumer evidently found something in salmon she had almost forgotten about, or about which mother never told her.

Cumulative effect of such satisfaction was manifest as the year 1954 closed, with business in the two last months of the year running beyond anything which sales and traffic managers could recall. Stocks then were low in all categories save Puget Sound Sockeyes, whose position seemed well fortified from the standpoint of quality and the prospect of limited yield in 1954. (See Loyd A. Royal's article on "Fraser River Sockeye Management" elsewhere in this Yearbook.)

● *WHAT CAUSED IT?* This question will bring a variety of answers, but all will be alike in one respect: each will ascribe much of the health of 1954 canned salmon marketing to "promotion"—and by this they mean the industry enterprise which carried canned salmon into the consciousness of the American grocer and American housewife in a manner not approached for many years, and perhaps never.

Timing and character of the promotion enterprise apparently were well-keyed to maximum results, and seemed to turn salmon selling into a sound business in the space of a quarter-year.

While the promotion was begun in a limited way in the summer consuming season of 1953, its principal effort was not released until the pre-Lenten weeks of 1954, when it seemed to catch the trade's interest on an upward bound.

Close observers, in the trade and out, generally agree that this promotion set the stage for a swing-back to salmon; and that the success which success begot continued to influence the volume of sales and the character of selling to the end of the year.

● *BUSINESS ON THE BUILD*— Low spot on the 1954 salmon selling road was in the first weeks of the year. Then Chums were being offered in three grades, "Fancy", "Average" and "Fall", by some sellers, priced $14, $13 and $12.50 .

Pink pricing moved up before the year was more than a fortnight old, and the ordeal of the national brokers' convention passed without unpleasantness.

By March the effectiveness of the salmon promotional campaign on sales was manifest and generally admitted. Then the British came into the

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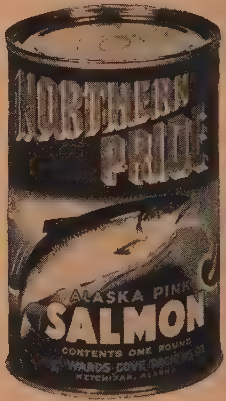
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"PIRATE" BRAND—Alaska Chum Salmon and Grated Albacore Tuna.

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EXPORTS OF BRITISH COLUMBIA CANNED SALMON

YEAR	Unit	To United Kingdom Quantity	To United Kingdom Value	To All Countries Quantity	To All Countries Value
1933	Cases	225,508	$ 2,255,080	1,173,574	$9,244,557
1934	"	304,313	3,490,470	1,036,401	8,419,896
1935	"	412,333	4,387,222	1,205,427	9,347,379
1936	"	389,358	3,597,649	1,385,956	10,478,418
1937	"	393,458	3,798,818	1,165,184	7,518,120
1938	"	342,640	3,726,527	972,630	7,111,140
1939	Cwt.	48,104	768,636	104,150	1,347,796
1940	"	41,172	665,833	113,289	1,504,917
1941	"	369	10,288	77,478	1,095,282
1942	"	738,518	13,860,849	776,382	14,424,678
1943	"	555,922	11,605,958	591,243	12,110,563
1944	"	512,445	10,664,747	540,039	11,065,864
1945	"	398,532	9,447,916	596,140	11,789,788
1946	"	444,823	11,742,701	479,021	12,330,780
1947	"	185,088	4,482,175	368,143	9,759,051
1948	"	47,711	1,590,962	275,724	8,933,240
1949	"	229,903	7,081,556	414,259	11,923,924
1950	"	126,029	4,645,680	330,176	10,246,436
1951	"	166,197	6,542,185	321,796	11,550,633
1952	"	12,208	386,752	292,185	8,140,129
1953	"	127,015	4,321,350	499,473	14,644,624
1954*	"	150,371	6,106,585	448,314	14,181,637

SOURCE: Victoria, B.C. Bureau of Economics and Statistics, Department of Trade and Industry.

*First nine months only.

market in a belated buying movement which took 20% of the Red talls available, and bucked-up the Canadian sellers no-end.

By May the market was rated "healthy", with Pinks at $19 or better and Chums at $16, up $2 from the first of the year.

At mid-year the supply of canned salmon was virtually exhausted; and as sellers found time to check with their customers reports of salmon sales increases of 300 and 400% over 1953 came in.

• *FALL SELLING FANTASTIC*—Sales of canned salmon during the early fall months were rated "fantastic". Chums, in abundant supply, and the finest quality every known, opened at $15 in spite of their large volume, and sold like nylons in wartime. They were priced $1 per case higher than in 1953, when the pack was smaller.

Pinks—admittedly short, opened at $19, where they had closed at $16, and never went below this figure. As the fall advanced Pinks advanced with it, to $20, and eventually to $21.

The honest reporter would not deny that volume was not affected adversely by price advances, but these upward revisions came only as available goods became scarce.

Pinks were short everywhere and virtually all operators resorted to allocation of their supply, pro rating according to 1953 purchases. In general, most Pink sellers were able to allocate on the basis of about 40% of the previous year's business.

There was realism in pricing, too. Reds, for example. The supply of Red Alaskas was pitifully short, but the memory of 1951 and the impenetrable consumer ceiling which its pricing developed kept quotes at levels where sales were not stifled.

• *SOCKEYE SENSATION*—Run of Sockeye to the Fraser River in July and August of 1954 produced a sensational situation, and the largest pack of this variety available in a generation.

To an all-time high Copper River Sockeye pack was added some 450,000 full cases of Puget Sound Sockeyes, mostly in halves.

Admittedly, the situation was a bit tense. Some sales for buyer's label were made at $16, but for the most part trading was at $16.50 or better, and established brands found ready sales at $17.50 and $18, often backed with an advertising allowance that was more than a price concession.

A new element of strength in the Red and Sockeye market was provided by the new conditions which developed around the selling of a substantial part of the Bristol Bay freezership fish.

With improving technology and knowledge of how these fish should be handled, much—perhaps most—of these goods proved acceptable for distribution under national labels. This relieved much of the weight which this stock previously has existed on the market, and is generally accepted as having served to strengthen the situation.

• *IMPORTS' INFLUENCE*—Volume and effect of imported canned salmon on the American market is believed to have been less in 1954 than for several years.

Substantial quantities of Canadian Pinks came into the States during the early months of the year, but only as needed to meet an existing demand when U. S. supplies had been exhausted.

The British buying in Canada during the later spring, supplemented by the autumn decontrol in the United Kingdom and that country's larger purchasing, served to ease the market situation in Canada and relaxed the pressure to export to the United States.

Actually, the United States exported a fair volume of canned salmon during the year; and could have sold more. The autumn purchasing by the British failed to find enough American salmon offered to absorb all the exchange available.

• *CAN-SIZE CONSIDERATIONS*—Trend toward 4-lb. cans for institutional purposes, particularly in Cohoes, continues to make gains. Pack in this size during 1954 was substantial, and more could have been handled had they been available.

At the same time, some thoughtful packers and sellers are again giving thought to the possible desirability of smaller can sizes, in line with the general trend in food selling.

Current thinking seems to run toward the half-pound can, rather than the "buffet" or other compromise between the pound tall and the half-pound flat. One analyst shows that in the 1953 pack 20% of the salmon went into halves and quarters. In 1954 the overall percentage doubtless was lower, due to production rather than market considerations; but even in the pressure of the heavy Sockeye run Puget Sound packers got virtually their entire production of that variety into half-flats.

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Paramount ALBACORE SOLID WHITE TUNA
Paramount HERRINGS
Paramount HERRINGS
Paramount 3 MINUTE SALMON CROQUETTES
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MARKETS

Return of the United Kingdom to the free Market basis for buying canned salmon in the fall of 1954 proved a powerful stimulant to the Canadian salmon industry.

• Return of the United Kingdom to a private buying basis was the brightest spot in the marketing picture for British Columbia canned salmon in 1954. It meant that for the first time in almost 15 years British buyers could order what they wanted, limited only by the amount of funds allocated by the British government for overseas purchases in the dollar area. The days of "bulk buying" were over, and most packers and exporters were anything but sorry to see them go.

With these restrictions removed and Britain's economic recovery steadily progressing, the British Columbia industry could look forward to a return of something akin to prewar conditions in the canned salmon trade with that historically important market.

Before the war, about 65% of the total British Columbia pack was exported, and 50% went to British Commonwealth countries, principally the United Kingdom. During the war, the British market absorbed most of the canned salmon produced in the West Coast province, but during the lean days immediately following return of peace, when Britain couldn't afford dollars for anything but top priority imports, canned salmon sales overseas slumped. The industry would have faced extremely serious conditions had it not been possible, through aggressive promotion, to increase domestic sales of canned salmon from about 500,000 cases before the war to more than 900,000 cases.

At the beginning of the 1954 season the overseas market outlook was still clouded, even though Britain had given a hint that her purchases would be at least as great as in the previous year when they represented nearly $5,000,000. There was good reason to expect that by the end of the year a total of nearly $7,000,000 would be allocated by Britain for purchase of West Coast canned salmon, most of it from British Columbia but some from Puget Sound canneries. Under private trading, providing the funds are allocated as requested, sales should be substantially larger in 1955.

This year the British Columbia industry will follow up the missionary work initiated in 1953 when a trade delegation went to Britain and negotiated for the purchase of British gear and equipment on the assumption that Britain would be more disposed to buy canned salmon in the country where she was selling other goods. The packers feel that Canada, with a population of 15,000,000, can absorb only just so much canned salmon and that the market may already be close to the saturation point based on present consumer demand. They regard the United Kingdom as the market with the greatest scope for expansion, especially since tariffs keep their product out of the United States.

The carryover situation was improved in 1954, and the season started out with only 180,500 cases—about 50% Sockeye—still unsold, compared with 260,000 cases at the outset of 1953 and the staggering 600,000 cases of 1952's unpleasant memory.

Britain's policy of bulk buying was formally discontinued September 30. Final order on that basis was for 228,000 cases, placed by the British Ministry of Food.

Sales of B. C. Chums, frozen, to the U. S. market were substantial due to the large pack in the province and the light Pink harvest in U. S. fisheries. They probably would have been greater had the premium on the Canadian dollar not militated against the trade to some extent. An embargo on Sockeye export was removed towards the close of the run to the Fraser, but the result was insignificant as the catch tapered off soon after the order went into effect.

BRITISH COLUMBIA CANNED SALMON PRICES

YEAR	SOCKEYE			COHO, SPRING, BLUEBACK			PINK			CHUM	
	1-lb. Talls or Flats 48's	$\frac{1}{2}$-lb. Flats 96's	$\frac{1}{4}$-lb. Flats 96's	1-lb. Talls or Flats 48's	$\frac{1}{2}$-lb. Flats 96's	$\frac{1}{4}$-lb. Flats 96's	1-lb. Talls or Flats 48's	$\frac{1}{2}$-lb. Flats 96's	$\frac{1}{4}$-lb. Flats 96's	1-lb. Talls or Flats 48's	$\frac{1}{2}$-lb. Flats 96's
1942-4 b	$16.25	$17.50	$10.50	$11.50	$12.75	$ 8.12$\frac{1}{2}$	$ 6.25	$ 7.50	$ 5.00	$ 6.25	$ 7.50
1945-6 b	17.65	18.90	11.20	12.90	14.15	8.82$\frac{1}{2}$	7.65	8.90	5.70	7.65	8.90
1946 c	18.90	20.30	....	13.90	15.25	.....	8.30	9.70	....	8.30	9.70
1947	23.50	25.00	15.00	20.00	21.50	13.00	12.50	14.50	.....	12.00	13.50
1948	28.50	30.00	17.50	24.50	26.00	15.25	16.50	18.00	.....	15.00	16.50
1949	31.50	33.00	19.00	23.50	25.00	15.00	16.50	18.00	.....	12.50	14.00
1950	31.50	33.00	19.25	23.50	25.00	15.00	17.50	19.00	12.00	14.00	14.00
1951	36.00	38.00	21.50	27.50	29.00	17.00	19.00	20.50	12.75	16.50	18.00
1952	31.50	33.00	19.00	20.50	22.00	13.50	15.00	16.50	10.75	13.00	14.50
1953	28.50	30.00	17.50	20.50	22.00	13.50	15.00	16.50	10.75	13.00	14.50
1954	30.00	32.00	18.50	22.50	24.00	14.50	16.00	17.50	11.75	14.50	15.50

NOTE: – Quotations for 1948 and 1947 packs represent packers' opening prices to the domestic market. Prices received for 1950 sales under the contract to the United Kingdom were considerably less than those quoted. Prices marked 'c' were established by the Canadian government in December, 1946, for sales to the domestic trade, but are also roughly equivalent to those received for export to the United Kingdom, etc. Prices marked 'b' were those paid by the British Ministry of Food in 1945-46 and 1942 to 1944.

In 1954 there was considerable variation in prices paid by major packers, especially for Sockeyes and Chums. Two prices were paid for Chums, according to grade, Fancy selling at $14.50 and $15.50, standard at $13.00 and $14.50.

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TUNA MARKETS

AMERICAN CANNED FISH VALUES BY AREAS

YEAR	PACIFIC COAST						States Other than Pacific TOTAL	United States TOTAL
	Alaska	California	Oregon	Washington	TOTAL	% of Nat'l. Total		
1935	$26,072,966	$25,252,965	$ 2,851,987	$ 4,955,117	$ 59,133,035	78.8	$15,860,684	$ 74,993,719
1936	45,078,945	26,296,129	2,972,959	3,582,880	77,930,913	82.3	16,726,956	94,657,869
1937	45,041,499	30,741,773	4,163,681	5,276,928	85,223,881	81.2	19,713,750	104,937,631
1938	37,059,151	25,232,688	3,638,815	3,762,575	69,693,229	83.5	13,752,660	83,445,889
1939	34,775,988	31,639,354	4,622,664	5,192,077	76,230,083	79.0	20,228,510	96,458,593
1940	31,836,480	36,949,395	5,294,488	3,987,170	78,067,533	82.9	16,046,513	94,114,046
1941	56,453,007	39,830,950	7,704,434	7,130,960	111,119,351	80.1	27,564,806	138,684,157
1942	48,874,227	44,506,354	12,375,323	8,319,559	114,075,463	78.8	30,567,784	144,643,247
1943	58,479,130	46,842,918	7,242,950	2,975,728	115,540,726	81.8	25,615,584	141,156,310
1944	52,072,335	53,653,337	11,720,608	3,706,586	121,152,866	79.5	31,158,318	152,311,184
1945	45,491,662	60,219,179	12,543,519	7,326,616	125,580,976	82.0	27,219,595	152,800,571
1946	55,081,941	85,457,037	12,164,093	18,202,350	170,905,421	75.1	56,724,033	227,629,454
1947	89,135,362	116,493,682	20,626,850	24,949,347	251,205,241	80.9	59,475,179	310,680,420
1948	97,657,187	137,876,592	21,926,969	18,497,700	275,958,448	82.1	60,223,031	336,181,479
1949	82,225,067	119,497,465	13,683,517	23,009,231	238,415,280	80.6	57,088,625	295,503,905
1950	82,828,503	140,251,694	19,250,557	25,370,759	267,701,513	81.3	62,661,340	330,362,853
1951	80,748,052	122,572,382	15,454,209	27,312,377	246,087,020	81.7	55,123,275	301,210,295
1952	77,586,903	124,582,452*	14,284,187	21,362,466	237,816,008	77.7	68,013,190	305,829,198
1953	59,477,956	132,298,470	15,629,708	24,357,778	234,363,912*	76.5	72,515,896	306,873,674

*Includes Hawaii

Marketwise, tuna faced a grim situation in 1954, with, costs, production, import volume all high and inventory long.

● California tuna industry entered 1955 with firm knowledge that it was facing a strong competitive sales situation among the major packers.

As this was written, it seemed certain that the inventory of canned tuna from California canneries, carried over into 1955, would be greater than in any recent years. Whether this inventory could be reduced to comfortable proportions during the Lenten season was a question that canners hoped would be answered in the affirmative.

The California tuna industry had the disadvantage of an abnormally high price for raw tuna early in 1954, $350 a ton for Yellowfin, an increase from $320 a ton. This in turn was reflected in a rise in case and the shelf prices. The latter, it is surmised, proved too high to meet competition from other protein foods.

And what's more, production of tuna from the San Diego and San Pedro fleets continued bountiful, with domestic tuna tonnage for 1954 roughly 15% more than in 1953. By the marketing agreement with the American Tunaboat Association, each canner in 1954 agreed to take a specified percentage of the capacity tonnage of its fleet.

Sales slackened in the summer months and inventory grew heavy. Reduction in the case price of light meat packs was announced early in July, followed by a negotiated drop in the tonnage price of raw tuna from $350 to $330 for Yellowfin.

Tuna canning went into slow motion; boats were compelled to wait a month or more for unloading during August, September, October. National Tuna Week in November was acknowledged to have stimulated an increase in sales, but most sales managers were convinced that this sales impetus and advertising alone would not accomplish the task of moving cases from warehouse to grocer's shelves.

Imports of frozen tuna increased over 1953, strangely enough, in the light of the strong domestic production. January through September recorded 53,634 tons of imports, largely from Japan. Peru was also a large exporter.

The imports of tuna canned in brine (tuna in oil imports are limited by tariff protection) held at a level comparable to the same period in 1953: 11,962 tons as compared to 11,602 in 1953. Here again Japan was the principal source. Despite imports of white meat tuna, this species appeared to be short in supply.

The California tuna industry took a long look backward at 1954 and came up with the fact that while the number of tuna canneries, nation-wide had increased—about 35 in number—the number of California tuna packers had decreased, a drop from 15 to five major packers.

There was an appraisal, too, of the spread between the retail price of advertised brands of chunk and private label tuna—approximately 8c, as the year drew to a close.

Chunk tuna, packer's brands, was being offered during the last months of 1954 in the Thursday weekend shopping newspaper ads in the Los Angeles area's major chains at 29½c a can (6½ oz.). Private label chunk weighs-in at 6 oz.

California tuna moved into 1955 with plans for a consumer sales campaign that would tie-in with other basic food products such as milk, rice, vegetables, etc., in an effort to further acquaint the American housewife with the nutritional values and taste appeal of tuna, whatever the pack or the species.

Tuna inventory going into 1955 was rather long, due in part to the record December landings of tuna—heaviest ever recorded for that month.

Sales managers, however, were quite confident that by the end of the first quarter of 1955 any carryover excess would have been absorbed, due to normal lag in operations following the holidays.

Seasonally slack fishing in the early months of the year.

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Fisheries of JAPAN

JAPANESE CANNED SALMON PACK—1954

(In full cases of 48-lbs. net)

COMPANY	Cannery Location	RED	RED TIDBIT	PINK	CHUM	SILVER	KING	TOTAL
Nichiro Gyogyo K. K.	Meisei Maru & Kyoho Maru	60,231	726	26,721	59,550	13,105	858	161,191
	Land	9,343	372	37,890	13,269	14,243	...	75,117
	Total	69,574	1,098	64,611	72,819	27,348	858	236,308
Taiyo Gyogyo K. K.	Eijin Maru	35,476	248	16,846	3,419	9,290	225	65,504
	Land	14,884	621	17,826	...	5,161	1,391	39,883
	Total	50,360	869	34,672	3,419	14,451	1,616	105,387
Nippon Suisan K. K.	Miyajima Maru	35,855	1,166	2,342	..	3,854	..	43,217
	Land	13,592	814	19,603	...	9,585	..	43,594
	Total	49,447	1,980	21,945	...	13,439	...	86,811
Nippon Reizo K. K.	Land	15,199	871*	11,009	4,230	10,420	...	41,729
Others	Land	1,566	...	41,832	...	...	...	43,398
TOTAL	Floating	131,562	2,140	45,909	62,969	26,249	1,083	269,912
	Land	54,584	2,678	128,160	17,499	39,409	1,391	243,721
	TOTAL	186,146	4,818	174,069	80,468	65,658	2,474	513,633

*Includes 257 cases of Silver Tidbit. NOTE:– Some figures for land packs have been estimated. A portion of the land packs, particularly in Pinks, was packed from fish causht in the vicinity of Hokkaido, but the majority of the land packs, as well as all of the floating production, came from high seas fishing operations.

Rising swiftly, Japan's fisheries in 1954 again attained pre-war levels, and promise continued growth as they press further in new fields of technology and exploration.

By

KENJI SAKAI

● Japan's fishing industry has gradually recovered from the sadly battered and devastated state in which it stood at the end of the Pacific War. The pace of the recovery indeed has been conspicuous year by year, but it is evident that the year 1954 marked a great stride in the development, bringing production and export of marine food items back to the prosperous pre-war standard.

Putting it roughly, Japan's export of canned marine products for the years 1951, 1952 and 1953 had respectively been 20,000, 30,000 and 50,000 tons, but in 1954 the index easily soared above 70,000 tons, largely because the production of canned salmon alone was so enormously expanded by the first full-scaled operation on the North Pacific high seas of a great number of off-shore gillnet boats.

Moreover, 1954 saw unusual increase in the Japanese domestic pack of canned crab.

The pack of canned tuna was kept at a high level, with large shipments to the United States.

A new item, canned saury, is being successfully packed at time of writing with expectation that it will provide an important quantity of export goods, offsetting in part at least the total failure in the catch and pack of sardines.

● *OCEAN GILLNETTING*—In 1954 fishing activity by Japanese nationals on the North Pacific high seas peaked in the remarkable activities of the salmon gillnet fishery by fleets of fishing vessels serving motherships equipped to can and/or freeze the catch.

This was the third year since inception of this post-war industry, and the first full-scale operation after two years' tentative undertakings.

In all, 20,472,112 salmon of the several species were caught by 205 "catcher boats" belonging to seven motherships. The size of the motherships varied from the 8964-ton *Miyajima Maru* down to the 3737-ton *Saipan Maru*. Four of the motherships were equipped with canning apparatus, two with two lines and two with one line each. Except for one of those outfitted with two lines of canning machinery, all of the motherships had freezing equipment and refrigerated storage. As an important factor, every such mothership had fish-scaling facilities on the deck, since mild-salted salmon packed in wooden cases has traditionally a large domestic demand in Japan.

Aside from the ship's proper crew of 35 to 72 men, a mothership was manned with 8 to 18 production administrators or staff-supervisors and 80 to 217 working men to make the total personnel 123 to 307.

According to pre-season contracts these motherships received salmon alongside from the gillnet boats belonging to them at the price per fish of Y 270 for Reds, Y 75 for Pinks,

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Mr. Sakai is the Japanese correspondent and circulation representative of Pacific Fisherman resident in Tokyo.

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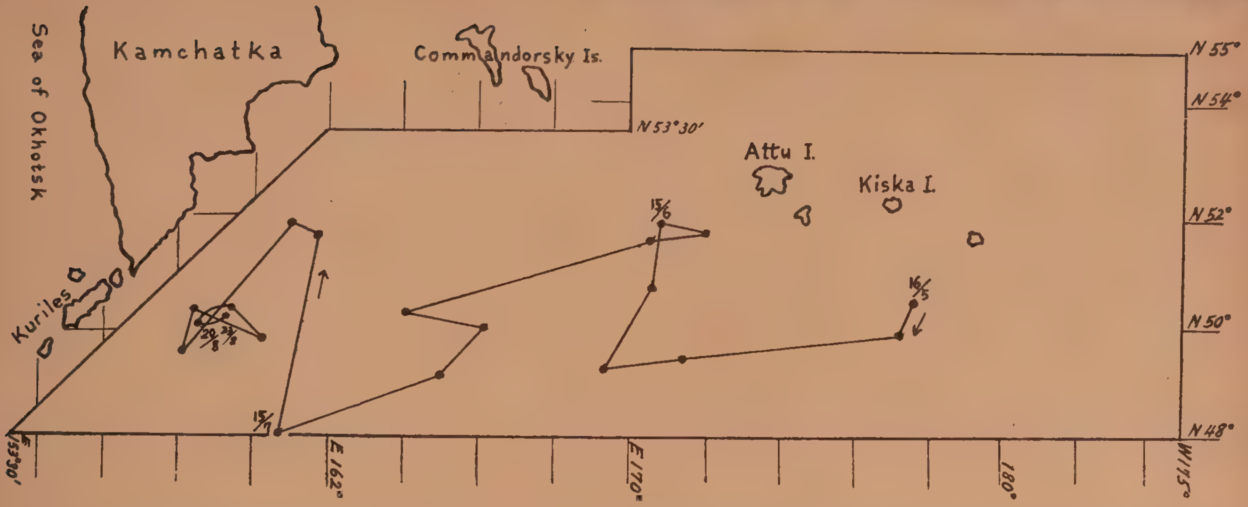

The Track of a Mothership—Chart of the North Pacific area fished by Japanese expeditions in 1954 with the stations, dates occupied, and travel track of one of the seven motherships logged. The other ships and their satellite fleets followed similar general courses.

Y 170 for Chums and Y 200 for Silvers. Except for Chums, in which there was no change, the prices for Reds, Pinks and Silvers had respectively been Y 230, 70 and 190 the year previous.

● *LARGER BOATS IN* 1955—The self-navigating gillnet boats were drawn from Hokkaido and north Honshu fishing ports. Their size averaged 60-tons with a speed of 7 miles, though for the 1955 season 70-ton average with a speed of 8 miles is being specified. These fishing boats, with or without line-hauler equipment, were usually manned by a crew of 17, consisting of a foreman—fishing master so-to-speak, with highest pay—skipper, chief engineer, radio operator, chief-mate, two engineers (oil-men) and 10 fishermen. Their fishing season commenced at the middle of May and ended at the middle or the latter part of August.

In 1953 half of the gillnets with which they were equipped were of amilan—a nylon fibre—and the rest were of ramie. Each boat set 150 to 170 shackles of such net at one time. In 1954, however, all the nets were of amilan and each boat could set 200 to 280 shackles of the amilan gillnet at one time because of its hardiness and light weight. Better weather than in 1953, and the increase in the number of nets set at one time are credited with producing a catch far above original expectations.

Japanese Gillnetters of the type used in the high seas salmon fishery working into position alongside the mothership to discharge their catch. Each boat will carry a crew of 17.

● *THE CATCH OF* 1954—By dint of hard work, the 205 catcher boats in 1954 took 20,472,112 salmon, of which 18.6% were Reds, 28.3% Pinks, 46% Chums, 6.8% Silvers and 0.3% Kings. This catch compared with 7,701,792 fish netted by 105 catcher boats in 1953, and 2,108,348 fished by 50 gillnetters in the first year of 1952. Average catch per boat increased tremendously from the first year's 42,167 fish to 99,864 fish average in 1954, while that in 1953 was 73,350 fish. The 1954 total catch of 20,472,112 fish exceeded the pre-season target of 14,743,000 fish by 38%. In 1953 high-boat of the fleet was *No.* 1 *Katsu Maru*, which caught 96,701 salmon; but in 1954 *Atsuta Maru* was the high-liner with a total catch of 157,605 salmon, though surpassed in mentary value by other ships because of her large percentage of Pinks. The average rate of catch per shackle set was: 4.75 fish in 1952, 6.14 in 1953 and 6.16 in 1954.

It was noteworthy that Chums were abundant in the 1954 season while the percentage of Red and Pink decreased. Also something is hinted by the steady advance of Silver salmon in the species-composition of the catch, Silvers rising from 1.1% in 1952 to 6.8% in 1954. The average weight of 1954 Pinks was slightly less than that of 1953.

After being taken to the motherships, the fish were canned, frozen or saled, and in every case they were packed in wood cases for facility of handling. Almost all of the Red salmon were canned on board the floating canneries or on land canneries after delivery in frozen form. Most Pinks and Silvers also were canned, but except for Reds the disposition

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Table I — West coasts of North & South America—listing principal ports

Table II — Lower California and the Gulf of California (Mexico)

Table III— West Coast of Central America

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Fisheries of JAPAN

Japanese Mothership Operations Authorized for 1955

Operating Firm	Vessel	Operated in 1954 or New	Gross Tons	Equipment		Number Fishing Vessels
				Freezing Sets*	Canning Lines	
— Salmon Operations, Aleutian Area —						
Nichiro Gyogyo K.K.	*Kyoho Maru*	1954	7,080	..	3	39
Nichiro Gyogyo K.K.	*Meisei Maru*	1954	5,608	20	2	29
Nippon Suisan K.K.	*Miyajima Maru*	1954	8,964	40	2	39
Taiyo Gyogyo K.K.	*Koyo Maru*	1954	7,000	40	2	39
Hokkaido Gyogyo Kosha	*Terutama Maru*	1954	5,643	..	2	29
Taiyo Reito Bosen K.K.	*Azuma Maru*	1954	6,025	..	2	29
Hakodate Kokai Gyogyo and Taiyo Gyogyo K.K.	*Choko Maru*	New	5,598	..	2	29
Kyokuyo Hogei K.K.	*Baikaru Maru*	New	4,744	12	2	29
Nichiro Gyogyo K.K.	*Koei Maru*	New	6,803	..	3	24
Nippon Suisan K.K.	Under construction	New	6,000	32	2	24
Hokuku Suisan K.K. and Hoko Suisan K.K.	*Kaiko Maru*	New	2,940	10	1	24
Total Units	11	....	....	154	23	334†
— Salmon Operations, Okhotsk Area —						
Nichiro Gyogyo K.K.	*Nisshu Maru*	New	6,020	..	3	34‡
Hokkaido Gyogyo K.K.	*Gon-yo Mary*	New	3,846	9	..	24†
— Crab Operations, Okhotsk Area —						
Nippon Suisan K.K. and Nichiro Gyogyo K.K.	*Yoko Maru*	....	4,752	..	2	§
Hokuyo Suisan K.K. and Taiyo Gyogyo K.K.	*Shiranesan Maru*	....	5,736	..	2	§

***Capacity of the "set" unit of refrigeration not indicated.**
‡Includes 8 'investigation ships" in the combined operations.
†Includes 50 "investigation ships."
§Not determined at presstime.

of various species depended principally upon the sales policy of the operating companies, and the equipment of their factory-ships. As experience has indicated that canning is more profitable than salting, it is expected that in 1955 *all* the motherships will have canning machinery, with probably some increase in the average tonnage of the motherships, and perhaps in number as well.

● 1955 *OPERATIONS*—Permits for 1955 mothership operations, issued just as the year opened by the new Minister of Forestry and Agriculture, authorize an increase of 63% in the high seas salmon fishing effort in the Aleutian Area, with 334 fishing boats operating as against 205 in 1954.

The mothership fleet for 1955 is raised to 11 vessels, four more than in 1954.

The fleet will can a much larger proportion of its catch, as all 11 of the motherships will be equipped for canning, with the total number of lines 23, as against 6 operated in 1954.

In addition to the Aleutian Area salmon permits, the authorization for 1955 contemplates two salmon mothership operations in the Okhotsk Sea, and also two crab motherships in Okhotsk waters.

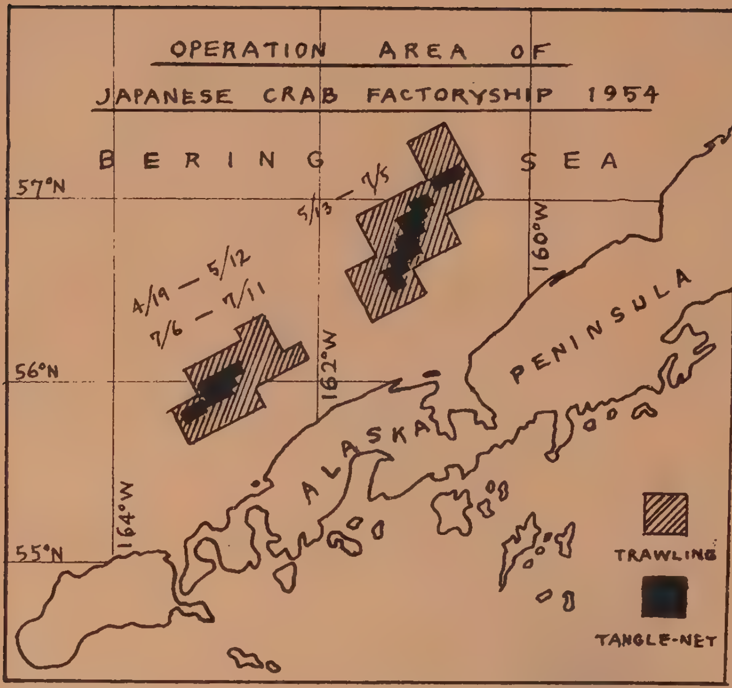
● *HALF-MILLION PACK*—In 1954 for the first time since the war, Japan packed more than a half-million cases of canned salmon, thanks to the development of the said high seas gillnet fishing. The pack was 513,633 full cases for 1954 as against 208,689 cases of a year previous. Of the total pack of 513,633 cases, 269,912 cases were processed on board factory-ships at sea, while some 190,000 cases were packed at Japanese land plants from fish frozen and transported from the spot of capture for the purpose of canning. Only about 50,000 cases or so of Pinks were packed from local Hokkaido fish. However, even motherships having cannery equipment on board froze a good deal of fish for transportation to Japanese land canneries, as shown in the accompanying table regarding the pack. The capacity for canning on the ocean as a whole could not handle the total quantity of the fish caught.

During the packing season, England opened her door for the importation of canned salmon from abroad and Japan secured a substantial portion of the British business—more than any other country. As may be seen in another table showing the export movement, practically all the export varieties of the pack—352,961 full cases consisting of 179,732 cases of Reds, 3,745 cases of Ted Tidbit, 119,265 cases of Pinks and 50,219 cases of Silver—were sold and shipped to England, Ireland, Australia and other countries at: $29.00 - $30.50 f.o.b. Japan for the Red; $19.50-$22.00 for Pink; and $24.00-$26.00 for Silver.

Japanese Canned Salmon Packs and Exports

YEAR	Floating Cannery	Land Cannery	TOTAL PACK	TOTAL EXPORT
1948	...	1,680	1,680	2,967
1949	...	38,065	38,065	4,117
1950	...	67,118	67,118	13,067
1951	...	195,776	195,776	86,346
1952	...	97,700	97,700	38,205
1953	38,427	170,262	208,689	80,018
1954	269,912	243,721	513,633	352,961

NOTE:– Source for years prior to 1954, Japan Canners Association. Unit is full cases of 48 lbs. net, but for the years prior to 1953 data include minor quantities of specialty items in various can sizes and styles. A large part of the land cannery production in 1953 and 1954 is from salmon caught and frozen on the high seas and delivered to shore canneries for processing. All of the floating cannery production was derived from high seas gillnetting operations.



King Crab Areas in Bering Sea fished by Japanese gear in 1954, with the dates of activity in each area shown. Almost exactly the same ground was fished in 1953.

It is forecast that the export trade by the Japanese will easily exceed the 500,000-case mark in 1955, in view of probable increase of the high seas salmon gillnet boats from 205 in 1954 to at least 250 in 1955; plus greater emphasis on canning.

● *GOOD CRAB YEAR*—Another Japanese activity on the north Pacific in 1954 that demonstrated the Japanese talent for ocean workmanship was the excellent performance of crab factory-ship *Tokei Maru,* 4998-tons, with its accompanying six trawlers. This was the second year of the post-war project, and as in the previous season of 1954 was under joint management of Nippon Suisan K.K., Taiyo Gyogyo K.K. and Nichiro Gyogyo K.K., although the first-named company was the owner of the mothership.

Size of the six trawlers ranged from 56-ton up to 79-ton. In addition, six "Kawasaki" boats of 10-tons each, Japanese-type wooden fishing boats best fitted for handling tangle-nets, were carried on board *Tokei Maru.* Two of the "Kawasaki" boats were powered with 20-hp. engines and two with 40-hp. Setting out from Hakodate early in April, they arrived on the crab grounds off the north coast of the Alaska peninsula at the middle of the month, and immediately began trawling and tangling King Crabs. Once they all moved somewhat farther to the southeast, and at the finish they moved back to the former ground for the sake of test fishing for "Zuwai" crabs. So good was fishing that 34 days earlier than in the previous season the same floating cannery attained Crab and 5,000 cases of "Zuwai" the pack target (57,000 cases of King crab). The following comparative production records show average size of King crabs was larger than in the previous year, and also more plentiful, as the catch by both tangling and trawling nets was better than the year previous.

	1953	1954
Number of King Crabs caught with tangle-nets	948,482	722,428
Rate of catch per shackle of tangle-net	8.2	11.9
Number of King Crabs caught by trawling	327,878	338,386
Rate of catch per haul of trawl net	129.4	161.5
Total number of King Crabs caught	1,276,360	1,060,814
Pack of canned King Crabs, c/s	58,240	59,850
Crabs per case of canned King Crab	21.9	17.7
Average daily pack of canned King Crab, c/s	489	757
Pack of canned "Zuwai" crab, c/s		3,457
Total pack, c/s	58,240	63,307
Duration of stay on the fishing ground, days	119	85
Personnel	470	423

It was announced by the Japanese operators sources a short time after the return of the crab factory ship that the forthcoming expedition of 1955 would strictly adhere to the same scope of operation as in 1954, in the interest of protecting the resource.

Beside the ocean pack mentioned above, Japan produced an unusually big quantity of both King Crab and other species in Hokkaido and Honshu in 1954, showing a total of 209,850 cases for King crab and 278,457 cases for other varieties of crabs to make a grand total of 488,307 cases, nearly double the previous year's. Although England this year lifted the ban on the importation of this high-priced article for the first time since the war, such a sudden increase of Japanese canned crab production was to cause excessive competition among the shippers. This resulted toward the end of 1954 in the formation of a nation-wide association of all the packers and the establishment of an overall joint selling agency according to the "Law Regarding Promotion of Export Trade of Marine Products".

● *1955 CRABBING LIMITED*—As mentioned above, although the Japanese crab factory ship expedition to Bering-Alaskan waters will be limited to one mothership only in 1955, there is an interesting possibility that another such expedition might be recognized by the Japanese government for operation in the Okhotsk Sea off the west coast of the Kamchatka Peninsula, which has been virtually closed with a tight "Iron Curtain" since wartime. If that be authorized it is altogether probable that activities would be on the high seas not less than 12 miles off land, instead of three miles as was the case before the war.

● *BERING SEA TRAWLING*—Lastly, 1954 saw the Japanese first activity since wartime in Bering Sea trawling of bottom fish, except halibut, from the catching of which Japan abstains under the North Pacific Fisheries Treaty with the United States and Canada. As a tentative measure, the Japanese government recognized the trawling project so that protein food might be provided to the Japanese people economically. A newly-built 1000-ton trawler *Asame Maru,* of Nippon Suisan K.K. initiated the enterprise. From June through August she made two successful voyages be-

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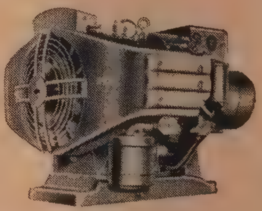

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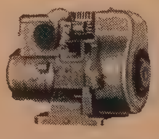

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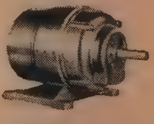

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JAPANESE CANNED CRAB PRODUCTION AND EXPORTS

(In cases of 24 lbs. net)

YEAR	PACK			EXPORT		
	King Crab	Other Crabs	Total	King Crab	Other Crab	Total
1948	17,712	2,381	20,293	15,939	980	16,919
1949	34,639	1,607	36,246	46,266	7,258	53,524
1950	108,487	20,524	129,011	89,544	14,995	104,539
1951	139,397	55,209	194,606	83,329	19,524	102,853
1952	98,116	28,149	126,265	85,236	26,256	111,492
1953	198,418*	71,970	270,388	156,699	47,318	204,017
1954	209,850*	278,457*	488,307	100,000	150,000	250,000

NOTE:- Source, Japan Canners Association, except for 1954, where figures are preliminary and subject to correction. "Other Crabs" include "Hairy" crab, "Hanasaki" crab and "Zuwai" crab.

* Crab packed on the factory ship "Tokei Maru" in East Bering Sea have been included in this table. In 1953 this pack was 53,240 cases of King crab; and in 1954 it was 59,850 cases of King crab and 3,457 cases of "Zuwai" crab.

tween Japan and the shallow waters at the east extremity of Bearing Sea with a fair catch of flatfish, though disappointing in cod and pollock. Then two full-scale freezership-and-trawlers expedition followed with motherships *Miyajima Maru*, 8964-tons of the same company and *Eiji Maru*, 7416-tons, chartered by Hokuyo Gyogyo K.K., leaving Japan in September and returning in November with a number of trawlers. In all, approximately 10,000 tons of Bering Sea flatfish were brought Japan in the year; and 1955 will see the same activity on more or less similar scale.

● *SUPER TUNA CLIPPERS*—Development of Japanese pelagic fishing in the central and south Pacific Ocean was quite conspicuous in 1954. The newest tuna clippers, or "semi-motherships" as they might be called, went beyond the Pacific borders and into Arabian waters.

In 1954 it became a common practice for a fleet consisting of a 10,000-ton-class freezer and a number of tunaboats to stay for months around the New Hebrides Islands. In April the Japanese Fishery Agency got a most modern investigation ship of 1098 gross tons called *Toko Maru*. With a 2300-hp. main diesel engine, she makes 13 knots with cruising radius of 11,500 nautical miles. During the whole operation season of Japanese gillnet boats on the North Pacific high seas for salmon, this boat moved along with the fishing fleet and supervised operations while studying the run of salmon.

Allegedly the world's largest tuna fishing boat—because the ship was so registered officially—was put into service by Nichiro Gyogyo K.K. in July. That was *No. 21 Kuroshio Maru* of 1856 gross tons. When she first made a few trips between Japan and the Aleutian-Bering high seas salmon fishery she was nothing but a most modern reefer; but after she left Kurihama at the end of August for the Arabian Sea, she was a tuna clipper, while carrying six duralumin fishing barges on board. With a full cargo of Yellowfin tuna and Big-Eye tuna, she successfully returned home late in November.

A newly built tuna clipper of Misaki port was said to be the first vessel of this type equipped with a propeller of variable pitch. She is *No. 15 Kaiko Maru*, 817-tons, and also carries two duralumin fishing barges. After 90 days of operation in the Arabian Sea she returned home with a full cargo, mostly small-sized Yellowfin.

Taiyo Gyogyo K.K.'s *No. 2 Banshu Maru*, a 1200-ton reefer having two fishing barges on board, also converted similarly for tuna fishing. This ship was engaged in tuna fishing together with a smaller tuna boat on Arabian Sea with splendid results.

(EDITOR'S NOTE—For comparison with these Japanese super-clippers, with their tonnage, presumably gross tons, of 1,856, 817 and 1,200, it is interesting to note that the gross tonnages of three representative American clippers of the largest class is: *Western Ace*, 732; *Scarlet Queen*, 691; *Mary E. Petrich*, 509.)

● *ALEUTIAN WHALING* — Third category of Japanese fishery activity on the North Pacific high seas is whaling, and 1954 was the third year that Japan dispatched a whaling fleet to the sea area along Aleutian Islands. All through these three years the Japanese government recognized

Japanese Canned Salmon Exports, 1954

DESCRIPTION	DESTINATION				
	England	Ireland	Australia	Other Countries	TOTAL
Red	137,636	15,070	25,713	1,313	179,732
Red Tidbit	300	...	3,345	100	3,745
Pink	50,367	25,752	17,025	26,121	119,265
Silver	16,767	18,300	2,660	12,490	50,219
TOTAL	205,072	59,122	48,743	40,024	352,961

NOTE:- Figures are in full cases of 48 lbs. net. Data are for Oct. 31, 1954, when practically all export-grade items had been shipped.

JAPANESE HIGH SEAS SALMON CATCH

(In numbers of vessels, numbers of fish and percentage of catch)

YEAR	Mothership	Catcher Boats	RED	PINK	CHUM	SILVER	KING	TOTAL	AVERAGE Catch per Catcher Boat
1952	3	50	740,380 35.1%	701,437 33.2%	640,927 30.5%	24,243 1.1%	1,361 0.1%	2,108,348 100%	42,167
1953	3	105*	1,579,844 20.3%	3,066,278 40.0%	2,707,627 35.2%	339,711 4.4%	8,332 0.1%	7,701,792 100%	73,350
1954	7	205*	3,813,121 18.6%	5,792,268 28.3%	9,395,565 46.0%	1,396,937 6.8%	74,221 0.3%	20,472,112 100%	99,864

* Includes 12 "investigation ships" in 1953 and 45 of these vessels in 1954. Their function is that of scouting, as well as actual fishing.

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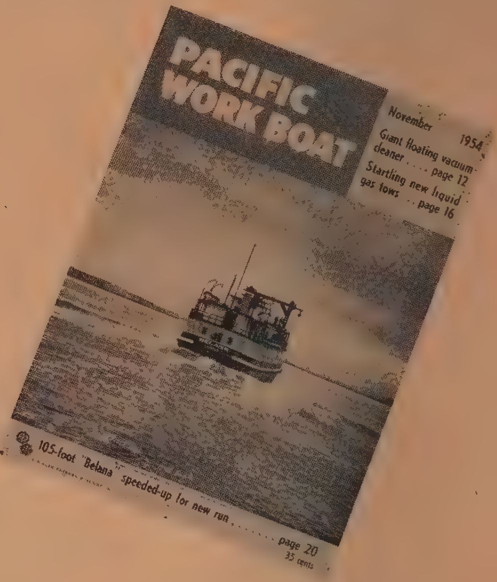
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Japanese Fishermen dressing high seas Chum salmon for salting on board one of the motherships.

the business as tentative, and the ventures had been by joint enterprise of a few leading whaling companies of Japan — Nippon Suisan K.K., Taiyo Gyogyo K.K. and Kyokuyo Hogei K.K. In 1952 and 1953 *Baikaru Maru*, 4804-tons, owned by Kyskuyo Hogei K.K. with a fleet of four catcher boats caught and processed the following number of whales:

		Blue	Fin	Humpback	Sei	Total
1952	*Baikaru Maru*	55	213	37	14	319
1953	*Baikaru Maru*	90	470	42	98	700

In 1954 Taiyo Gyogyo's *Kinjo Maru*, 11,781-tons, was added and found an excellent whaling ground both north and south of Unalaska Island. During the operating season from May to September the two fleets killed the following number of whales with ten catcher boats in all:

	Blue	Fin	Humpback	Sei	Sperm	Total
Kinjo Maru	117	355	120	47	490	1129
Baikaru Maru	28	961	16	82	...	1087
TOTAL	145	1316	136	129	490	2216

However, for protection of the resource, the Japanese government in October, 1954, decidedly announced that in 1955 only one whaling fleet should be licensed for the Aleutian whaling area.

- *SPEEDY WHALER*—Nippon Suisan K.K. is proud to have what it believes to be the world's speediest whale catcher boat, which was finished in July, 1954. This is *No.* 10 *Koan Maru*, 700-tons, claimed to be the largest of all Japanese whale catcher boats and fastest in the world with her maximum speed of 17.9 miles an hour. After being commissioned she hurried to Aleutian waters to join the whaling mothership *Baikaru Maru*, where she proved her efficiency. Coming back from the north seas in September, the catcher boat proceeded to the Antarctic Ocean for Southern whaling.

- *CONTROL LAW OPERATES* — In 1954 "Law Regarding Promotion of Export Trade of Marine Products" was enacted. For two years previous controversy between the packers and traders of canned tuna for export, on the one hand, and the producers and shippers of frozen tuna for export on the other, had called for some legislative control measure. The hot discussion gave birth to a far more comprehensive law than had originally been contemplated, covering not only canned and frozen tuna but also frozen swordfish, canned sardines, canned saury, canned crab, canned salmon, fish liver oil and agar agar.

The law contemplates promotion of the export trade in Japanese marine products (1) by adding value by processing and (2) generally improving the quality of such goods; as well as by (3) arranging to stabilize the management of businesses engaged in any way in the export trade of such goods. A council was formed in November of 15 counselors representing the manufacturers, the fishers or the export traders.

The council is vested with power to adjust the overseas selling price and quantity of the specified marine goods and even to plan the annual production program. Each of the eight specified marine products will have an industrial association on a national basis. Most of the industries concerned have already had such an organization, but they must remodel themselves according to law.

DIRECTORY

- *FISHERIES DIRECTORY* — Of Japanese fishery agencies and associations, as of Jan. 1, 1955, is:

GENERAL—

Fishery Agency, Ministry of Agriculture and Forestry, Japanese Government, Kasumigaseki, Chiyoda-ku, Tokyo—Director Shigeo Maetani.

Japan Fishery Association, Marunouchi Building, Chiyoda-ku, Tokyo—President Tsunejiro Hiratsuka.

VESSEL OWNERS—

Federation of Japan Tuna and Bonito Fisheries Cooperative Associations, 3 2-chome Gofukubashi, Nihombashi, Chuo-ku, Tokyo.

OPERATORS—

Japan Frozen Food Exporters Association, 1 4-chome Shiba-Shimbashi, Minato-Ku, Tokyo — Director-in-Chief, Kenkichi Nakabe.

Japan Canned Food Exporters Association, Marunouchi Building, Chiyoda-ku, Tokyo — Director-in-Chief, Takeshi Aizawa.

Japan Canned Tuna Industry Cooperative Association, Kokubu Building, Nihombashi, Chuo-ku, Tokyo—Director-in-Chief, Tomohachi Ueta.

Japan Canned Saury Industry Cooperative Association, Kokubu Building, Nihombashi Chuo-ku, Tokyo—Director-in-Chief, Wasaburo Nemoto.

Japan Canned Sardine Industry Cooperative Association, Marunouchi Building, Chiyoda-Ku, Tokyo—Director-in-Chief, Ben-ichi Tamura.

Japan Canned Crab Marine-Industry Association, Tokyo*—Director-in-Chief, Koichiro Kobayashi.

*Not officially decided as of January 1, 1955 yet, since this one is being organized according to a new legislation.

Japan Liver Oil Industry Cooperative Association, Chanokiya Building, Nikombashi, Chuo-ku, Tokyo—Director-in-Chief, Yuji Suzuki.

Fraser River Sockeye Management

By **LOYD A. ROYAL**

"Must" Reading on Sockeye Management and Potential

● Spectacular run of Sockeye salmon to the Fraser River, which produced a canned pack just below 1 million full cases in 1954, focused the attention of the world upon a fishery which 30 years before had hovered barely above commercial extinction.

The steady recovery of recent decades, of which the 1954 run was only the climactic evidence that caught public attention, resulted from several steps: (1) international action by Canada and the United States in pooling their interests in the resource they shared; (2) brilliant, painstaking, drudging scientific research which cleared away the mystery cloaking the fate of the Sockeye; (3) engineering and construction of fishways indicated by research, which permitted the salmon to pass to the spawning areas; (4) administration which applied the facts developed by continuing research to the management of the fishery in order that the best and most productive portions of the several races should be used for seed, and the less productive segments for the commercial pack.

In this article Loyd A. Royal, director of the International Pacific Salmon Fisheries Commission, presents the principles of that management, raising certain warnings as to their general application in other fisheries; and *appraises the potential of the several runs, over each of their next cycle years, and for the longer term.*

The article is *must* reading for any with close interest in salmon, scientist, administrator, operator, fisherman, seller and buyer, for it gives the secrets on which success has been built; and risks forecast to a degree, and with a frankness, unusual for the scientist.

● Year 1954 is an historic year in the Fraser River Sockeye fishery. A pack of 950,000 full cases, worth $31,500,000, was processed. This pack is the largest since 1913, the year of the epochal block at Hell's Gate, and the largest pack of any cycle-year (see note below) in the history of the Fraser River fishery.

While we are on an optimistic vein it is well to point out that 1954 is the *fourth successive record-breaking year.* The run of 1953 was the greatest of the cycle-year since 1917; 1952 had the largest cycle-year run since 1912, and 1951 produced more Sockeye than any cycle-year since 1903. These record runs are economically important for they have contributed to the fishing industry 40 million dollars more than that produced the four preceding years.

There is a meaningful story behind this surge in production, but it is one which does not embody an overnight panacea for Sockeye runs elsewhere; nor for that matter, does it embody one for the total rehabilitation of the Fraser—now 55% completed.

● *TWO VITAL PRINCIPLES* — In 1949, when the returns came back from the first run passing through the

Seventeen years ago six prominent citizens of Canada and the United States were appointed as the first International Pacific Salmon Fisheries Commission. These men had not allowed failure to enter their private lives, nor did they intend to record a failure in their obligation to restore the Fraser sockeye fishery. Dr. William F. Thompson was appointed Director of Investigations and in his inimitable manner he ferreted out the major cause of the failure of the Sockeye runs and of the continued low level in their abundance. In exploring and isolating the remnants of the various Sockeye populations he related their failure to maintain themselves to certain water levels at Hell's Gate. The proof was indisputable, and by 1945 the famous Hell's Gate fishways were in operation. After this the obstruction no longer existed, and the fishways stand as a permanent monument to the first commission, its director, its engineer and related staff.

fishways, a new chapter was written in fisheries management. The fish reaching the spawning grounds had reproduced at a rate twice that of the fish actually spawning prior to the construction of the fishways. In other words, the artificial delay in the inherent rate of migration was almost as serious as if the fish had not reached the spawning grounds at all. From this fact, and its correlation with a great mass of environmental data collected in the reproducing areas, a management concept was evolved that *the character of the migration of a race is related to the character of the environmental cycle in the reproductive area, the timing being controlled indirectly by the solar cycle, hence the maintenance of maximum productivity in a fishery depends upon the maintenance of normalcy in the character of the escapement.*

Since it was noted that the bulk of

Mr. Royal is director of the International Pacific Salmon Fisheries Commission and is in charge of the research and administration of the Fraser River Sockeye fishery of which he writes. This paper was presented at the last meeting of the Association of Pacific Fisheries by Roy I. Jackson, assistant director of the Sockeye Commission.

EDITOR'S NOTE—Mr. Royal uses the term "cycle-year" to denote a year falling within the four-year cycle which predominates among Fraser River Sockeye. Thus, 1950, 1946, 1942, 1938, 1934, 1930; and 1958, 1962, 1966, 1970 are "cycle-years" of 1954.

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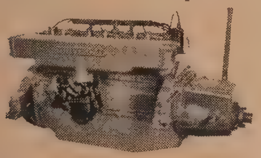

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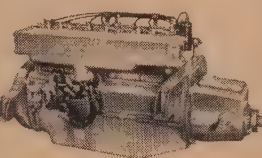

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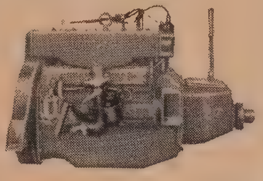

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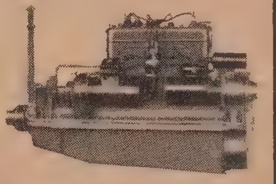

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each population destined for specific spawning areas passed through the fishery in a few days and since early and late arrivals on each spawning ground did not appear to be productive a second concept of management was evolved, viz. *only the main part of a racial migration was related to the normal reproductive cycle and the tails of the migration consisted of abnormalities not properly timed with the reproductive cycle.*

● *SEED FROM THE PEAK*—The 1946 escapement is the only known Adams River escapement which did not meet the requirements of these concepts. The returning run "failed". In 1950 every effort was exerted to permit a minimum adequate escapement at the proper time. The action of 1950 resulted in what is probably the greatest late Adams run in the history of the river, that of 1954. To the staff studying the sensitive relationship of the Sockeye to its reproductive environment for some five years this 1954 run is convincing proof of the need for obtaining at least the bulk of the required escapement of each race from the peak of each run. In this way the escapement will spawn at the proper temperature and set the stage for a proper fry emergence and perhaps even a proper timing of the migration to the sea. It must be remembered that a cold-blooded animal is a slave to the temperature cycle, which in turn is set by the fixed annual change in the relationship of the sun to the earth. The known consistent timing of Fraser Sockeye migrations for over 100 years is easy to understand when it is clear that the very survival of the Sockeye depends on maintaining a consistently favorable relationship with the water temperature cycle set by the sun.

A phenomenon of obvious importance to the management of the Fraser River Sockeye fishery is the inability of each population to produce in large numbers except in one year out of four. For instance, the total Adams River run in 1953 was only about 15,000 fish. In 1954 it was approximately 10,000,000 fish. Prior to the Hell's Gate block in 1913 all races had their maximum populations on the 1913 cycle. Daily diaries of the Hudson's Bay Company factors indicate two things of great importance: (1) that the dominant cycle was consistent back at least to 1825, and (2) that there were insufficient fish in the off-years for the Indians to survive without going elsewhere for their winter food supply—and this was before the advent of the commercial fishery. Since 1913 and since the construction of the fishways several runs have re-formed dominance on different years, indicating that the cause is local and not in the sea. The Adams River run, for instance, is now dominant on the 1954 or 1914 cycle. The Chilko run is dominant on the 1952 or 1912 cycle, and the Quesnel and Stuart Lake runs are becoming dominant on the original 1953 or 1913 cycle. This is all to the good for it means that the great run of 1913, when it is regained, will be spread over two or more years out of every four instead of occurring only once in four years to the economic detriment of the packers' facilities.

● *EQUAL FISHING PRESSURE*—What is the cause of dominance? We do not as yet know the cause but it is highly doubtful that we can do anything about it when we discover it because of the magnitude of the problem. Logic tells us it is an interrelated cycle of food, parasites, predators, or competitors set up by the Big Year which controls the productivity of the Off-Years. We know that when dominance is destroyed and only remnants remain this interrelated cycle apparently is also destroyed, for the remnant of each race will produce at a dominant rate every year until

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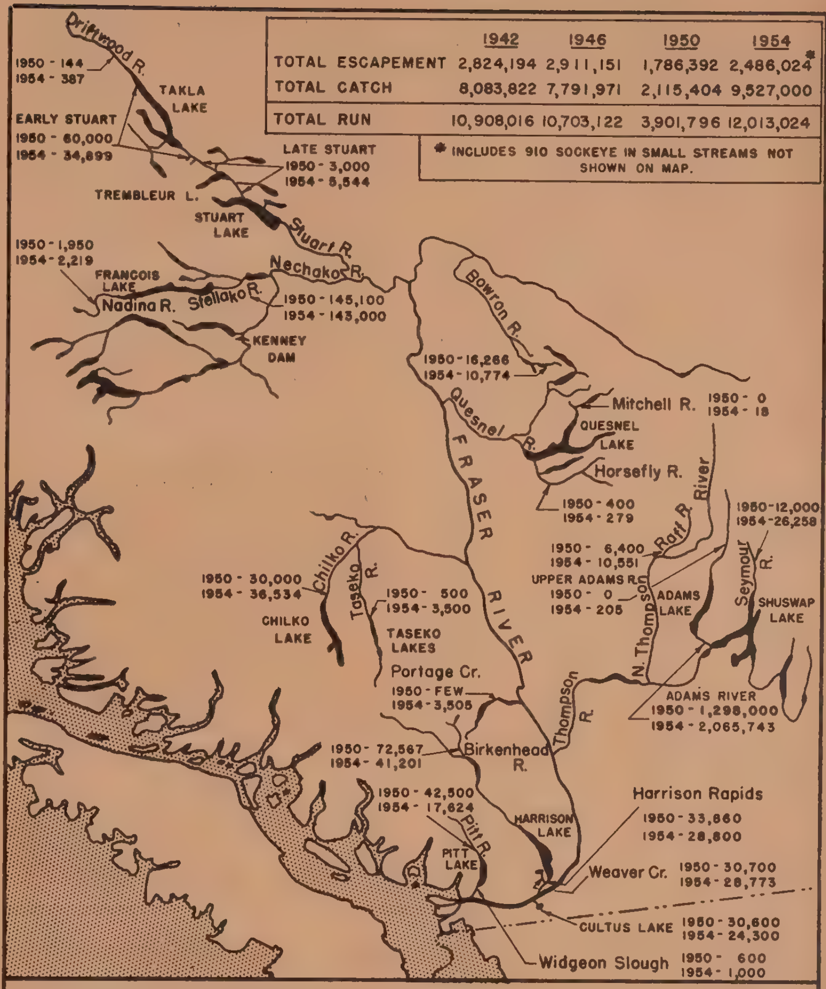

	1942	1946	1950	1954
TOTAL ESCAPEMENT	2,824,194	2,911,151	1,786,392	2,486,024*
TOTAL CATCH	8,083,822	7,791,971	2,115,404	9,527,000
TOTAL RUN	10,908,016	10,703,122	3,901,796	12,013,024

* INCLUDES 910 SOCKEYE IN SMALL STREAMS NOT SHOWN ON MAP.

Driftwood R.
1950 - 144
1954 - 387
TAKLA LAKE
EARLY STUART
1950 - 60,000
1954 - 34,899
LATE STUART
1950 - 3,000
1954 - 5,544
TREMBLEUR L.
STUART LAKE
Stuart R.
1950 - 1,950
1954 - 2,219
FRANCOIS LAKE
Nadina R.
Stellako R.
Nechako R.
1950 - 145,100
1954 - 143,000
KENNEY DAM
Bowron R.
1950 - 16,266
1954 - 10,774
Quesnel R.
Mitchell R.
1950 - 0
1954 - 18
QUESNEL LAKE
Horsefly R.
1950 - 400
1954 - 279
FRASER RIVER
Raft R.
River
1950 - 6,400
1954 - 10,551
UPPER ADAMS R.
1950 - 0
1954 - 205
1950-12,000
1954-26,258
Seymour R.
SHUSWAP LAKE
ADAMS LAKE
N. Thompson
Chilko R.
Taseko R.
1950 - 30,000
1954 - 36,534
CHILKO LAKE
1950 - 500
1954 - 3,500
TASEKO LAKES
Portage Cr.
1950 - FEW
1954 - 3,505
ADAMS RIVER
1950 - 1,298,000
1954 - 2,065,743
Thompson R.
1950 - 72,567
1954 - 41,201
Birkenhead R.
Harrison Rapids
1950 - 33,860
1954 - 28,800
1950 - 42,500
1954 - 17,624
Pitt R.
PITT LAKE
HARRISON LAKE
Weaver Cr.
1950 - 30,700
1954 - 28,773
CULTUS LAKE
1950 - 30,600
1954 - 24,300
Widgeon Slough
1950 - 600
1954 - 1,000

RACIAL ESCAPEMENT FIGURES — 1954 CYCLE
FRASER RIVER SOCKEYE

I.P.S.F.C.

the dominance-cycle is re-formed. This is happening all over the Fraser watershed since the construction of the fishways. Our logic tells us also that, if the dominant Sockeye year begins the reproduction-control cycle of food, parasites, predators or competitors, then we must not maintain it by rigid closed seasons in the off years with the accompanying increase in escapement. In this case such action would tend to lower productivity in all years by not allowing the control to die off every fourth year. It is for that reason that *regulations are currently designed to take the same percentage of fish in the off years as in the big years* with the exception in the big years when the size of the escapement may be set in accordance with the physical reproductive limits of the areas.

● *THREE-POINT POLICY*—We can now summarize the Commission's basic management policy as follows:

1. Treatment of each race as a separate management problem.
2. Maintenance of normalcy in the escapement including for the time being a fairly normal sex ratio.
3. Even fishing pressure from year-to-year regardless of the size of the run unless a particular run has been reduced in size by temporary abnormal reproductive environment or unless reproduction has been unusually good and there is a danger of the potential escapement exceeding reproducing area requirements.

● *THE FURTHER POTENTIAL*—We have mentioned that the Fraser River Sockeye population is 55% rehabilitated, based on the catch of the last four years compared with the catch four years prior to and including 1913. What does the future hold in respect to the remaining 45%? Much of the remaining potential lies in the Lake Stuart and Quesnel runs and there we are faced with a need for considerable physiological adjustment in these populations before their full potential can be realized.

The residual Late Stuart and Quesnel races, which are rapidly increasing in population size, are only the early migrating segments of the original population. As these segments increase in size they are expanding to environmental areas not suited to their early arrival. The result is extensive mortalities of unspawned fish, which slows down the rate of rehabilitation. In 1953 more than 50% of the Late Stuart run died without spawning due to warm water in certain of the ripening areas. Portions of these runs must readjust the timing of their arrival to a later date if they are to produce at a maximum. It is expected that this adjustment will take place in time, and it is our hope that by providing additional closures during August, thus increasing the percentage of the escapement of the latter part of the runs, we can artificially speed-up this adjustment.

The *upper* Adams River run was also of considerable size, according to historical reports; and it was completely exterminated. This year 203 Sockeye returned to upper Adams River from a transplant of Seymour River eyed-eggs. This return has been augmented by another transplant this year, but at best we may expect 12 to 16 years to elapse before this transplanted stock can reach a size of economic importance.

● *FOUR-YEAR FORECAST*—In summation, cycle by cycle, *we find no reason at present to expect any significant increase in the* 1955 *cycle* except in years having extremely favorable reproductive environment. There are no races having a dominant year of productivity on this cycle and the subdominant Chilko and Adams River runs are the mainstay of the catch.

The 1956 *cycle catch is currently maintained by the dominance of the Chilko Lake run in that year.* Productivity at Chilko Lake became unbalanced by the serious Hell's Gate block of 1941, which caused a shift in the dominant year from the 1957 cycle to the 1956 cycle. This shift apparently has upset the productivity pattern which has not yet re-stabilized after 12 years. *It may not be until* 1960 *that the dominant year at Chilko Lake is well-established and the cycle production regains a normal pattern.* This situation appears to be a good example of how slowly full productivity can be reestablished if the character of the annual escapement is responsible for upsetting the natural reproductive pattern.

The 1957 cycle run should gradually increase in size with an increase in the total productivity of the Quesnel and Stuart runs until the cyclic population exceeds that of the now famous Late Adams year of 1954. In fact, *an increase in catch in 1957 over that obtained in 1953 appears to be entirely possible. The eventual catch potential of this cycle appears to be greater than* 1,000,000 *full cases.*

The 1958 *cycle appears to be near its maximum size with a potential catch varying around a million cases* depending on the suitability of the reproductive environment of the year, and the success of the cycle-to-cycle regulatory control policies.

• *LONGER-TERM OUTLOOK*— In considering all cycles in all years *we find the greatest optimism for a substantial increase to be on the* 1957 *cycle* with *a potential increase represented by the upper Adams run still unassessed as to any specific year.*

In closing it should be pointed out that the fulfillment of the biological requirements for maximum productivity from a minimum escapement are difficult to obtain even under a stabilized fishery. When the fishery radically changes its character or efficiency many of the tools for accomplishing the optimum end-point are lost and such accomplishment becomes almost impossible. The change from linen to nylon gillnets and the development of an effective Canadian ocean seine fishery in recent years seriously hampered our ability in 1954 effectively to control the Adams River fishery while dividing the allowable catch between the two countries.

All of our scientific data collected to date support our management policies, and we have no reason to believe that the policities have any major fundamental weaknesses. We only hope that the complex fishery will permit us, in most cases at least, to reach the goal of a catch which is equally divided between the two nations and an escapement the size of which is fixed at a biological and economic optimum-minimum in number but maximum in productivity.

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Fraser River Sockeye Salmon Catch by Cycles

	1939	1940	1941	1942
British Columbia	568,943	937,062	2,116,723	5,047,599
Washington	552,179	709,661	1,560,482	2,921,805
TOTAL	1,121,122	1,646,703	3,677,205	7,969,404
	1943	1944	1945	1946
British Columbia	349,011	1,003,829	969,444	4,239,622
Washington	242,822	436,182	716,685	3,551,761
TOTAL	591,404	1,440,011	1,686,129	7,791,383
	1947	1948	1949	1950
British Columbia	354,000	751,812	1,020,799	894,469
Washington	90,117	1,089,060	1,058,117	1,220,935
TOTAL	444,117	1,840,872	2,078,916	2,115,404
	1951	1952	1953	1954*
British Columbia	1,288,162	1,154,383	1,992,343	4,720,000
Washington	1,136,791	1,113,475	2,032,437	4,806,000
TOTAL	2,424,953	2,267,858	4,024,780	9,526,000

* Figures for 1954 are preliminary. Figures in this table, taken from reports of the International Pacific Salmon Fisheries Commission, represent the actual numbers of Sockeye known to have been caught in waters covered by the Fraser River Sockeye Salmon treaty. No reliable catch statistics for years prior to 1939.

SALMON ESCAPEMENT OVER BONNEVILLE DAM

(In numbers of fish as recorded by U.S. Engineers)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
							CHINOOK						
1938	*	*	*	*	22,371	8,221	6,556	34,765	197,294	2,302	263	27	271,799
1939	6	12	121	51,410	25,159	5,602	17,845	32,919	150,851	2,197	78	16	286,216
1940	...	...	504	37,253	28,621	7,028	14,938	58,643	240,515	3,765	287	34	391,588
1941	4	...	1,360	51,501	19,445	7,013	9,395	12,590	351,967	7,179	866	138	461,458
1942	1	15	34	9,506	30,915	11,816	12,821	27,581	305,935	4,485	639	190	403,938
1943	11	6	43	12,172	53,268	5,440	8,044	28,985	201,414	3,354	365	21	313,123
1944	1	2	65	15,670	15,127	4,363	8,241	55,468	139,254	2,388	164	20	240,763
1945	6	4	81	17,148	26,276	11,293	16,327	32,254	189,675	4,281	137	6	297,488
1946	1	2	25	14,179	53,313	30,051	20,960	45,421	277,075	4,521	170	25	445,743
1947	...	2	141	83,520	49,899	25,502	13,358	43,062	260,385	3,945	526	36	480,376
1948	10	...	254	21,205	20,262	44,137	23,100	35,934	270,238	3,928	467	23	419,555
1949	...	...	5	5,765	44,304	24,232	22,500	41,500	137,599	1,571	215	6	277,697
1950	...	...	21	6,630	50,638	16,667	32,937	40,462	205,521	4,356	143	...	357,375
1951	...	...	32	28,801	86,055	54,889	24,394	33,785	97,131	6,489	212	...	331,788
1952	**	**	255	8,130	107,807	62,491	21,800	82,290	135,053	2,576	477	**	420,879
1953	**	**	1,254	126,450	42,583	27,228	30,593	27,398	75,145	1,495	333	**	332,479
1954	**	**	657	82,877	51,230	46,801	32,596	24,969	80,426	1,189	200	**	320,945
							STEELHEAD						
1938	*	*	*	*	6,622	2,382	19,455	29,231	46,618	2,264	339	92	107,003
1939	23	19	560	8,110	1,587	1,490	36,581	38,062	33,891	1,264	216	119	121,922
1940	5	96	1,688	4,125	998	4,489	61,175	46,071	64,377	1,786	292	59	185,161
1941	37	76	1,641	6,392	1,518	994	21,940	29,600	50,542	3,980	1,063	304	118,087
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	76,622	2,411	566	182	151,345
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	92	92,131
1944	50	157	1,019	6,142	2,227	1,169	21,868	24,508	35,907	6,129	1,119	226	100,521
1945	1,003	1,078	3,066	4,685	1,557	1,109	24,600	40,483	40,194	1,925	302	142	120,144
1946	63	551	3,040	9,839	5,481	3,265	20,559	58,356	38,296	2,067	262	769	142,548
1947	197	321	1,968	6,889	2,025	1,595	28,134	40,819	50,025	2,905	443	113	135,434
1948	154	119	1,631	4,473	1,170	1,895	33,191	53,621	40,609	1,742	381	76	139,062
1949	1	...	1,689	3,293	1,712	1,264	34,314	54,281	20,786	1,161	686	98	119,285
1950	13	...	1,156	4,537	1,667	691	25,142	53,904	24,226	1,932	811	...	114,079
1951	...	...	375	2,338	1,568	5,187	74,980	39,712	15,357	947	225	...	140,689
1952	**	**	278	1,248	1,751	8,202	118,110	79,735	48,293	2,735	638	**	
1953	**	**	1,310	5,308	1,456	5,314	106,712	64,006	36,107	2,797	905	**	223,915
1954	**	**	679	5,511	1,571	6,115	59,443	65,234	34,941	2,209	551	**	176,254
							SILVERS						
1938	*	*	*	*	...	...	...	3,070	10,995	972	141	7	15,185
1939	3	...	...	...	...	...	...	1,810	12,226	310	15	18	14,382
1940	3	...	...	...	...	...	...	1,451	10,212	213	33	5	11,917
1941	2	...	...	...	...	...	...	1,317	16,061	369	160	2	17,911
1942	...	...	...	...	...	...	...	1,193	11,061	147	...	...	12,401
1943	...	...	...	...	...	...	...	762	1,676	89	20	...	2,547
1944	...	...	...	...	...	...	...	1,052	3,022	103	29	2	4,208
1945	...	...	...	...	...	...	2	239	533	16	...	1	791
1946	...	10	4	...	...	...	22	227	3,609	1	...	24	3,897
1947	12	2	1	...	...	...	...	217	10,928	10	3	1	11,174
1948	1	...	...	...	...	...	11	158	3,893	10	3	5	4,081
1949	...	...	...	...	...	...	17	270	703	5	8	1	1,004
1950	...	...	...	...	...	...	...	1,572	8,545	36	...	...	10,153
1951	...	...	...	...	...	...	...	197	4,773	225	6	...	5,201
1952	**	**	...	...	...	...	10	2,581	5,131	22	24	**	7,768
1953	*	*	..	..	..	..	1	7,094	5,896	22	11	**	13,018
1954	*	*	..	..	..	..	..	668	3,319	74	1	**	4,062
							BLUEBACK						
1938	*	*	*	*	1,025	17,811	53,864	2,097	235	6	2	...	75,040
1939	...	...	...	48	189	29,386	43,124	616	19	...	...	...	73,382
1940	...	...	...	...	206	59,639	85,885	3,063	11	1	...	...	148,805
1941	...	...	...	299	1,052	23,536	39,193	1,615	50	...	...	...	65,745
1942	...	...	...	...	13	12,624	41,301	1,477	60	...	...	...	55,475
1943	...	...	...	...	9	4,525	33,613	1,697	1	...	...	...	39,845
1944	...	...	1	...	16	3,098	11,171	659	126	...	...	...	15,071
1945	...	...	10	51	521	1,507	6,903	498	10	1	...	...	9,501
1946	...	...	...	9	67	7,805	64,704	1,746	21	2	...	...	74,354
1947	...	...	...	...	5	59,378	108,175	3,564	15	1	...	1	171,139
1948	...	...	...	...	...	12,023	117,652	1,849	13	4	...	...	131,541
1949	...	...	...	...	151	9,013	41,619	655	6	...	...	...	51,444
1950	...	...	...	...	...	341	75,784	1,826	42	...	...	...	77,993
1951	...	...	...	...	25	81,045	87,104	1,214	40	...	...	...	169,428
1952	**	**	7	1	3	136,939	47,188	472	34	2	8	**	184,654
1953	**	**	57	27	663	45,711	186,933	1,776	50	2	...	**	235,219
1954	**	**	1	...	13	52,359	76,505	1,212	17	...	...	**	130,107

*Data not available. Figures for 1938 are from May 7 to Dec. 31, inclusive. ** Counting suspended during winter months.

NOTE: – Escapement of Chums in any quantity occurs only in last 3 months of year; therefore Chums are listed only in historical table, showing yearly totals.

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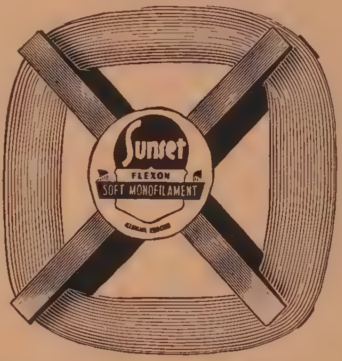

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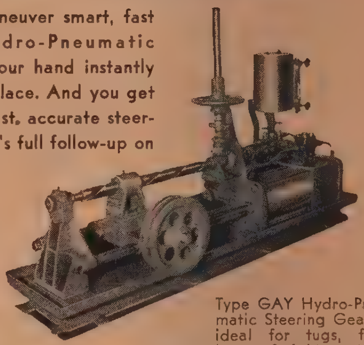

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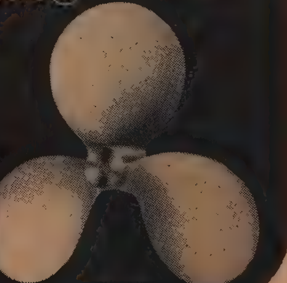

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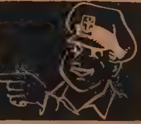

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Island-based fisheries of Mid-Pacific found substantial development in 1954 as commercial enterprise began to use data revealed by exploratory research.

● Mid-Pacific fisheries development took long strides forward in 1954, a year which provided notable advance from Samoa north to Oahu, and promise at least of fisheries extension north from Hawaii to the latitude of Oregon.

Much of this advance was in the field of exploratory fishing; but some of it took on the nature of commercial pioneering and actual industrial development.

Focal point of American fisheries development in the ocean area of the Pacific continues of course at Honolulu, where Hawaiian Tuna Packers, Ltd., with a modern cannery and established industrial position for many years has been one of the leading American tuna canning companies.

At Nawiliwili, on the island of Kaui, another tuna company operates successfully on local tuna, mostly oceanic Skipjack.

● *PALMYRA VENTURE*—About midway between the Hawaiian Islands and Samoa, where the Van Camp Sea Food Co. operates a modern tuna cannery under lease from the Samoan territorial government and the Department of the Interior, lies Palmyra Island, which in 1954 saw the initiation of an interesting venture in fishery development.

Palmyra is one of the Line Islands, a widely dispersed group of which Christmas Island is the best known. This latter island lies about 1,000 miles due south of Hawaii, and currently is under joint jurisdiction of Great Britain and the United States, with the former government exercising the more active authority.

While American fishermen and enterprisers have endeavored to operate at Christmas Island, under the assumption that the nominal joint jurisdiction of the United States assures them of standing, difficulties have arisen in actual practice which have handicapped operations and limited the development of the fisheries and their contribution to the economy of Christmas Island.

In 1954 Dean Kayler and Chris Dahl, partners in the Kayler-Dahl Fish Co., with headquarters in Seattle and an Alaskan operation centering at Petersburg, acquired a 75-year lease of Palmyra Island in the name of Palmyra Development Co.

This island, about 300 miles northwesterly from Christmas Island, was leased from the family which had lived there for many years. During the war the U.S. Navy built large installations at Palmyra. These passed to the owners of the island and are included in the leased property.

Kayler-Dahl interests for the present plan gradual development of the fisheries adjacent to the Line Islands, using Palmyra as a supply and transshipment station, with the tuna catch shipped frozen to canneries in the Hawaiian Islands or the Mainland states.

● *LONG-LINING TRIED*—Long-line tuna fishing as a means of fishing in the vicinity of the Line Islands was tried first by the experimental cruises of the Pacific Oceanic Fisheries Investigations, which found fishing in that vicinity of an order which seemed to have commercial possibilities.

Later Kayler-Dahl sent three vessels—the *Commonwealth, Oceanic* and *Brothers,*—from Alaskan waters to try long-lining out of Palmyra. Late in 1954 the last-named was lost with all hands when she foundered in heavy weather.

The fishing vessels were halibut long-liners and tried stainless steel gear in the mid-Pacific tuna grounds. Their experience was varied. Fishing was not as good as that which had previously been experienced in these same waters; and there was difficulty with the gear.

All mid-Pacific long-line fishing with steel gear has produced similar difficulties, generally ascribed to failure of the inelastic gear under the shock of the strike and struggles of the very large fish frequently taken in the mid-depth fishing.

● *JANGAARD CRUISES*—Among the notable mid-ocean fishing ventures of 1954 were the cruises of the Jangaard boats *North American* and *Alrita,* each of which made two trips in the vicinity of the Line Islands under an arrangement with Pacific Oceanic Fisheries Investigations under which that Federal agency bore a portion of the cost of outfitting.

Results of the trip were narrowly "commercial", but not so spectacular as to attract further operations on the present market, and until some of the difficulties with gear had been worked out.

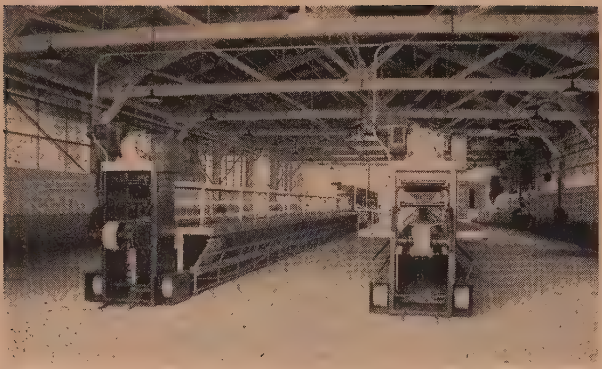
There was some loss of tuna as result of attacks by sharks, and the percentage of rejection of fish at the canneries ran rather high, resulting from "green" fish, or those in which the flesh was judged too dark for a commercial pack.

Difficulties with the breaking of longline gear have generally occurred as result of efforts to use steel gear in an effort to mechanize the operation. Where Japanese fibre gear has been used, breakage has not been serious, but the rate of hauling has been low and the labor requirement high.

Opinion generally is that economic use of longline gear by American fishermen in mid-Pacific will require the development of a form of gear which can be wound on drums and handled with a minimum amount of labor.

● *ALBACORE LOCATED*—Mid-Pacific explorations of POFI during 1954 were featured by some northerly cruises undertaken in the area of upwelling produced by the junction of two great current systems in the North Pacific.

Eventually, an area was located where Albacore were taken in fair abundance by trolling and longline;



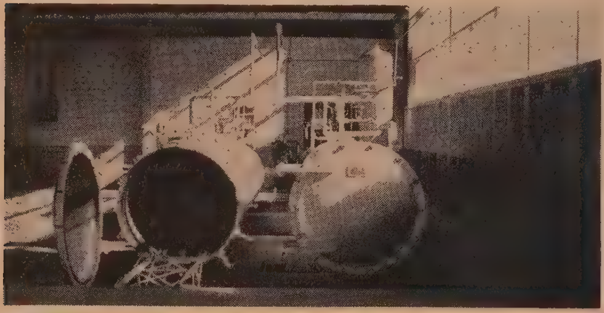
Looking along the tuna packing lines in the Samoan cannery operated by Van Camp Sea Food Co. Plant equipment largely was manufactured by Standard Steel Works.

and where plankton concentrations ranged from 10 to 20 times as dense as those found outside the region of current contact.

While the Albacore were not taken in great abundance, results of the explorations were highly encouraging, as they appeared to prove for the first time the existence in the eastern Pacific of an Albacore fishing area pairing with that worked by the Japanese north of Midway Island.

- Van Camp Sea Food Co., Terminal Island completed in December, 1954, the first year of its operation of the tuna cannery which it leased at Pago Pago, American Samoa.

The cannery was built in 1949 by Island Packers, Inc., a company promoted by Harold Gatty and backed by Rockefeller venture capital. When Gatty failed to find a supply of tuna for the plant, it was acquired by the Wilbur-Ellis Co., which subsequently sold it to the Office of the Territories, Department of the Interior. Van Camp leased the plant from this governmental agency in 1953.



Modern processing retorts in the Van Camp mid-Pacific cannery are typical of the high type of equipment installed. Cleanliness of the establishment is manifest.

The cannery is supplied with tuna by Japanese boats fishing with long-line gear. The Van Camp Sea Food Co. recently completed a new contract to take the production of seven Japanese boats for a six month period. These boats travel a distance of approximately 3500 miles from their home port in Japan and their tuna fishing is on a staggered basis.

The bulk of the catch is Yellowfin and approximately 20% is Albacore, all taken with long-line by a crew of 25 per boat. The tonnage of these boats, diesel-powered, ranges from 40 to 80. Fishing is carried on as far as 1,000 miles from Samoa, and the average trip extends to three weeks' fishing time. Van Camp Sea Food Co. maintains ice machines capable of 20 tons every 24 hours.

Can-closing, washing and handling equipment in this cannery in Samoa is comporable in character and quality with that of any mainland cannery.

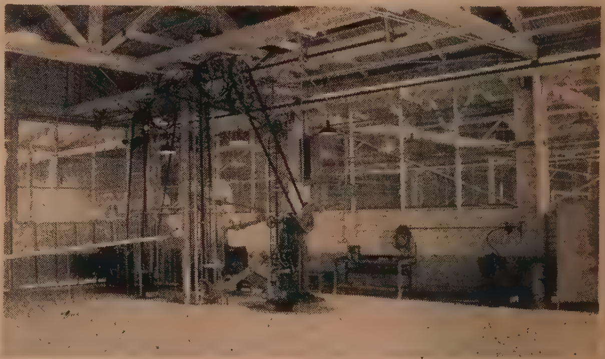
The tuna, hand-packed in 7-oz. cans, solid, chunk and grated, under the *Chicken of the Sea* label, is shipped by Matson steamer to the United States for sale.

It is interesting to note that the farther the Japanese boats range from Samoa, the smaller the fish average. The plant has a capacity of 20 tons a day. Van Camp recently installed one new cooker. Standard Steel Corporation of Los Angeles installed the original stainless steel cleaning and packing tables during the period when Harold Gatty was the operator.

To insure proper assembly of the equipment in the cannery at Pago Pago, each piece was set up and completely assembled at the Standard Steel Corporation plant and operated there during a lengthy test to guarantee perfect operation. Then, before shipment to Samoa, each piece was matchmarked.

The first phase of the Van Camp operation in American Samoa ended about mid-April with a production of approximately 590 tons of tuna by seven Japanese fishing boats. The cannery processed about 190 tons of tuna. The catch rate declined throughout February and March to a low of 1.01 Yellowfin per 100 hooks. A large amount of Albacore were taken on longline gear by the Japanese fishing vessels during the first operational period, averaging 40 pounds in weight.

During the early months of the operation, Paul Hedrick was superintendent, sent to Pago Pago by Van Camp with his wife, Lola. He was forced to resign this position because of ill health and has been replaced by Martin Quamma. Melvin Heath is assistant superintendent and his wife, Carol, is the plant bookkeeper. Mrs. Quamma serves as forelady, as does Mrs. Vivian Battaglia, whose husband, Joe, is packing room foreman and machine operator. Pete Miles is refrigeration engineer and fishing room foreman.



American Can Co. reforming machinery in the Samoan cannery is reminiscent of installations in the Alaska salmon canning industry where collapsed cans are widely used.

AUSTRALIA

Australian Tuna—Bait fishing for tuna as it is done from comparatively small boats on the Great Australian Bight. The fish appear to be present in abundance, but expansion of production awaits development of markets.

Australia's fisheries are notable largely for their tremendous apparent potential, with waiting latent tuna fisheries proven but needing development of a market.

By C. C. Collins

● The production of Australian marine fisheries for 1953-54 was 97,750,000 lbs. This figure was 4,000,000 lbs. greater than the total for the preceding year, but though the annual production figure is steadily rising the potential is enormously greater.

Australia imports roughly as much canned, smoked and fresh fish from overseas as her own fisheries produce. Yet commercial fishermen have already proved that up to 1,000 tons of Bluefin tuna can be taken off the coast of New South Wales alone in a season, and scientific investigation has shown that at least one of 10 varieties of tuna can be caught all the year round somewhere off the 12,000 miles of coastline of the island continent. Vast schools of fish have been identified by air survey near the coasts of most of the Australian States.

Fish suitable for consumption fresh are not abundant in waters adjacent to the big centers of population in the south. The greatest continuous width of the continental shelf occurs off the northwest and round the northern coast to New Guinea, which is remote from those centers.

Two main trawling grounds are fished, one extending from near Newcastle along the coast of New South Wales and southeastern Victoria into Bass Strait, the other in the Great Australian Bight, south of Western Australia.

The first, only about six miles wide, covers 3,500 square miles, the second, up to 30 miles wide, about 10,000 square miles. A sizeable fleet of steam trawlers, of about 260 tons, and 40-50′ Danish seiners fish the eastern trawling ground, which experts say has already been overfished for the types of fish usually sold for consumption fresh and needs careful nursing to restore. Production of the western ground is still a matter of estimate. Owing to its distance from the nearest large market in Melbourne its successful development would require large oil-fired or diesel trawlers.

Mr. Collins is a staff writer of the Australian News and Information Bureau, an agency of the government of Australia.

AUSTRALIA

King Crab Fisher—The freezing and canning trawler **Nordic Maid** on a quiet day on the Bering Sea. **Australian Prawns**—Newest aspect of Australia's rising fisheries centers around prawns, which have been found in considerable abundance. Samples sent to the American market are said to have won full approval.

However, an official estimate is that this western ground could produce about 10,000,000 lbs. of fish a year.

What the grounds on the continental shelf in the northwest and north could produce if properly developed is still the subject of investigation. Surveys are being made by stages by such organizations as the Fisheries Division of the Commonwealth Scientific and Industrial Research Organization which employs a scientific staff of over 30 in this field.

- *"SCHOOL FISH" FOUND*—The potential, in some of the unexploited areas at least, is indicated by official reports of air surveys. The school already referred to, extending over 100 miles, was off South Australia, and consisted mainly of pilchards and mackerel. Another air survey located and identified off Western Australia a school of 150,000 "salmon" (Australian "salmon" is really a sea perch, but is extensively canned for home consumption).

The Commonwealth Scientific and Industrial Research Organization says, "Such reports are not rare." T. C. Roughley, former Fisheries Superintendent in New South Wales, constantly reiterates, "We have scarcely begun to exploit deepsea fishing of tuna, sardines, anchovies and mackerel."

- *LOBSTER TAILS*—One post-war feature of Australian fisheries has been the rapid development of crayfishing caused by the demand from the United States for frozen crayfish (spiny lobster) tails in the northern hemisphere off-season.

In 1947-48 Australia's crayfish production was 7,500,000 lbs. In 1953-54 it was 17,300,000 lbs. All States have commercial crayfisheries, but by far the greatest production is that of Western Australia, which produced in the last season 3,245,280 lbs. of the national export pack of crayfish tails, and 60,198 lbs. of the export pack of 64,562 lbs. of whole crayfish.

In this season 98% of Australian crayfish exports were frozen tails for the United States. They earned Australia $3,500,000.

- *TUNA EXPANSION DUE*—Though Australia's tuna fishing has hitherto been on quite a small scale, its 683,445 lb. production for the last completed season was three times that of the preceding year. Rapid expansion to a major branch of the industry, with a large export trade, was expected, but a month or so after the present season opened it received a serious setback. Fishing vessels engaged in tuna fishing on the south coast of New South Wales were tied up because the only company handling this fish on a large scale (a Sydney firm) ceased buying.

The Australian producers had already lost the English market, which had absorbed about 15,000 cases a year, to Peru. The American market had been favorable for the Australian fish, which was of admittedly high quality, and producers were expanding in reliance on the American demand. However, over supply in America from other tuna producing countries caused a lessening of demand and a serious fall in prices.

The Sydney company had already bought 500 tons of tuna in a month, and now it could see no assured market, so buying ceased and the tuna boats were tied up. Efforts were being made at the time of writing to recapture at least a portion of the United Kingdom market and to negotiate a payable basis for the American market. Internal markets are not the answer to the problem because Australia's population is not large enough to support a mass-production and promotion campaign.

Australia is the world's chief producer of pearlshell. The main pearling centers are Thursday Island, in Torres Strait, and Broome, in the northwest of Western Australia. Pearlshell production for the last season (ended January 1954) was 1143 tons (Thursday Island 512 tons, Broome 436 tons). Of this total America bought 70%.

Another postwar development has been the establishment of shore whaling stations, of which there are now five—Point Cloates, Carnarvon and Albany in Western Australia; Moreton Island, near Brisbane, Queensland; and Bryon Bay in northern New South Wales. In the 1954 season all took the ceiling catch fixed by the Australian Government. From a total catch of 2040 whales approximately 17,000 tons of oil worth about $3,800,000 was produced. Most Australian whale oil is exported to Europe.

Other possible exports from Australian marine fisheries are scallops, of which 755,722 lbs. were produced in the 1953-54 season, worth $232,740, (1952-53: 645,777 lbs., $187,985) mainly from Tasmanian waters. American servicemen who visited Tasmania during the war voted Tasmanian scallops the best in the world. They are often 1 inch to 1½ inches across the fleshy part, and experimental shipments have already been made to America of frozen scallops.

Recently a cannery for eels has been started at Newcastle, and it is hoped that an export trade for this product will be established. In deep waters off this part of the coast "jumbo" prawns 10″ to 12″ long have been taken, and experiments are proceeding directed to commercial exploitation of these giants.

SARDINES

Sardines came back to California waters in the fall of 1954 to a degree not known in years, bringing a promise of recovery to an industry which only a few years before had been America's largest producer of fish.

With use limited largely to canning, and the canned market already well provided for through imports, the return to the industry from the return of the sardines was relatively limited.

- Sardines actually were available in California waters during the fall season of 1954 in greater quantities than the industry could utilize.

The quantity taken, barely one-tenth that harvested in some of the good years of the past, was limited less by availability of fish than availability of markets.

Before there was evidence that the fish would be present in volume far beyond that of recent seasons, the industry had proposed prices at which the packers later found they were unable to accept all the fish offered.

Part of the limitation laid upon the market for sardines arose from the generous provision which had been made for supply from foreign sources. American sellers, seeking to protect their brands and business in the domestic market, had arranged for the import of substantial volume of canned sardines similar to the California article from South Africa and Japan.

With these goods on hand or on

1954 -CALIFORNIA SARDINE PRODUCTION-1954

Month	Tons Received	Cases 1-lb. Oval 4 doz.	Cases 1-lb. Tall 4 doz.	Cases 8 oz. Oblong 48	Cases 5 oz. All 100s	Cases Other Sizes	Total Cases Actual Count	Total Standard Cases 48 - 1 lb.	Month
January	201	5,373	......	217	......	......	5,590	5,579	January
August	136	2,883	......	......	576	49	3,508	3,418	August
September	615	10,964	72	......	3,276	94	14,406	13,895	September
October	28,884	315,247	203,185	2,712	61,200	5,596	587,940	576,137	October
November	28,760	308,183	231,277	7,254	50,215	12,404	609,333	605,956	November
December	7,944	94,872	63,248	......	25,292	6,333	189,745	189,745	December
Fall Total	66,339	732,149	497,782	9,966	140,559	18,143	1,404,932	1,389,151	Fall Total
Grand Total	66,540	737,522	497,782	10,183	140,559	18,143	1,410,522	1,394,730	Grand Total

1954 -CALIFORNIA ANCHOVY PACK -1954

Month	Pounds Delivered	1-lb. Oval	1-lb. Tall	8-oz. Buffet	8-oz. Oblong	5 - oz. Round 100s	Total	Month
January	3,594,000	13,160	...	7,213	...	19,115	39,488	January
February	5,120,000	31,721	3,710	...	...	25,300	60,731	February
March	1,588,000	693	...	2,497	...	3,686	6,876	March
April	2,842,000	3,956	...	740	1,036	23,827	29,559	April
May	3,868,000	9,481	...	...	8,442	37,756	55,679	May
June	1,406,000	3,886	...	...	611	13,808	18,305	June
July	3,110,000	4,187	...	...	...	38,962	43,149	July
August	4,322,000	5,869	4,778	9,322	958	49,007	69,934	August
September	2,812,000	21,018	...	9,728	...	54,133	84,879	September
October	2,248,000	5,627	...	...	1,506	5,863	12,996	October
November	2,104,000	2,710	...	...	...	7,757	10,467	November
December	2,620,000	10,340	...	...	2,610	7,730	20,680	December
TOTAL	35,634,000	112,648	8,488	29,500	15,163	286,944	452,043	TOTAL

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order, the amount of fish which California canners could pack and sell profitably at the price paid the fleet was rather limited.

This forced buyers to put their boats on limits during a considerable part of the season; while fishing was to all intents suspended some time before the end of the open fishing period.

Whether the sardines would again be available in quantity in the fall of 1955, and whether the quantity would show further gains from the 1954 population, was a question seriously debated in the industry and in scientific circles.

In any case, with a pack of California sardines exceeding 1,000,000 cases for the first time in years the feeling within the fleet and throughout the industry was one of encouragement and optimism as 1955 advanced.

- Although northern and central California canned more sardines in 1954 than the year before, the score was nothing to cheer about, and again no sardines were caught in the waters of the area.

Monterey Bay Area received some 8,886 tons of sardines from the Port Hueneme Santa Barbara area, as compared to 86 tons the previous year, and San Francisco received 779 tons, as compared to nothing the year before. These fish were trucked in.

Production from the six canneries packing sardines in the area: J-D Packing Co., San Francisco; Santa Cruz Canning Co., Moss Landing; and California Packing Corporation, Peninsula Packing Co., San Xavier Fish Packing Co., and Hovden Food Products Corp., all of Monterey, was 209,271 cases for 1954, as compared to 1,160 cases for 1953.

Many industry leaders hoped that the comparitive revival of the fishery in southern California meant that 1955 would see fish again being caught in central and northern California waters.

A note of cautious cheer was sounded as 1954 ended by Richard S. Croker, marine fisheries bureau chief, California Department of Fish & Game, who said: "If water conditions remain good for several years, and not too many fish of pre-spawning age are taken, there may be some revival of the sardine industry."

"Economic conditions have prevented a heavy draft on increased but still relatively small populations of sardines off the southern California coast this season," Mr. Croker said. The total catch could have been greatly increased had marketing conditions been good and sardine reduction for meal and oil allowed by the Fish & Game Commission which controls only the

California Sardine Industry

1938-39 SEASON				
San Francisco District	200,361	7,804,909	34,751	224,112
Monterey District	180,090	5,462,066	28,859	1,063,363
San Pedro - San Diego District	148,125	2,235,082	22,603	1,286,301
Season TOTALS	528,576	15,502,057	86,213	2,573,776
1939 - 40 SEASON				
San Francisco District	211,471	9,313,706	36,324	286,639
Monterey District	227,231	7,090,963	34,568	1,763,401
San Pedro - San Diego District	93,176	985,323	12,161	1,084,928
Season TOTALS	531,878	17,389,992	83,053	3,134,968
1940-41 SEASON				
San Francisco District	117,817	4,809,853	20,541	288,413
Monterey District	165,145	5,197,570	25,805	1,219,846
San Pedro - San Diego District	171,747	2,390,887	24,776	1,608,207
Season TOTALS	454,709	12,398,310	71,122	3,116,466
1941-42 SEASON				
San Francisco District	185,921	7,162,343	29,935	854,709
Monterey District	249,717	7,222,683	36,309	2,429,804
San Pedro - San Diego District	147,825	2,113,939	18,859	1,870,601
Season TOTALS	583,463	16,498,965	85,103	5,155,114
1942-43 SEASON				
San Francisco District	115,586	4,467,454	19,114	413,165
Monterey District	183,158	5,590,335	28,255	1,429,652
San Pedro - San Diego District	202,597	3,090,994	29,614	1,862,073
Season TOTALS	501,341	13,148,783	76,983	3,704,890
1943-44 SEASON				
San Francisco District	126,132	5,018,816	20,064	425,487
Monterey District	212,383	6,578,416	32,840	1,563,036
San Pedro - San Diego District	135,007	2,185,779	20,608	1,161,750
Season TOTALS	473,522	13,783,011	73,512	3,150,273
1944-45 SEASON				
San Francisco District	136,337	5,616,063	22,258	271,528
Monterey District	234,613	8,305,401	34,920	887,190
San Pedro - San Diego District	177,465	3,781,148	26,795	1,102,662
Season TOTALS	548,415	17,702,612	89,973	2,261,380
1945-46 SEASON				
San Francisco District	83,483	3,581,808	12,765	456,001
Monterey District	142,282	4,803,560	20,297	1,220,579
San Pedro - San Diego District	170,325	2,846,216	23,481	2,073,963
Season TOTALS	396,090	11,231,584	56,543	3,750,543
1946-47 SEASON				
San Francisco District	2,846	65,002	519	6,590
Monterey District	26,818	755,674	3,893	155,329
San Pedro - San Diego District	198,052	3,314,193	26,870	1,931,544
Season TOTALS	227,716	4,134,869	31,182	2,093,463
1947-48 SEASON				
San Francisco District	383	4,440	37	5,793
Monterey District	14,492	260,375	1,756	222,867
San Pedro - San Diego District	95,362	1,458,983	11,762	1,258,660
Season TOTALS	110,237	1,723,798	13,555	1,487,320
1948-49 SEASON				
San Francisco District	1,688	16,590	127	34,197
Monterey District	52,203	783,627	5,566	914,624
San Pedro - San Diego District	127,350	1,436,939	13,301	2,113,897
Season TOTALS	181,241	2,237,156	18,994	3,062,718
1949-50 SEASON				
San Francisco District	17,798	607,004	2,917	81,040
Monterey District	133,570	3,431,286	17,513	1,606,767
San Pedro - San Diego District	186,392	2,402,760	23,343	2,632,305
Season TOTALS	337,760	6,441,050	43,773	4,320,112
1950-51 SEASON				
San Francisco District	....	538,132	2,408	67,698
Monterey District	....	1,132,643	6,443	759,172
San Pedro - San Diego District	....	4,802,054	34,660	4,444,120
Season TOTALS	....	6,472,829	43,511	5,270,990
1951-52 SEASON				
San Francisco District	321	6,350	32	4,342
Monterey District	24,864	327,149	2,217	495,542
San Pedro - San Diego District	101,356	1,121,770	10,855	1,867,978
Season TOTALS	126,541	1,455,269	13,104	2,367,862
1952-53 SEASON				
San Francisco District	......	....	......	....
Monterey District	285	2,345	14	5,740
San Pedro - San Diego District	3,330	15,529	186	64,819
Season TOTALS	3,615	17,874	200	70,559
1953-54 SEASON				
San Francisco District	....	....	....	....
Monterey District	58	410	3	1, 335
San Pedro - San Diego District	2, 568	12, 218	161	61, 622
Season TOTALS	2, 620	12, 628	164	62, 957
OFF-SHORE FLOATING REDUCTION PLANTS (not included above)				
1936-37 Season	239,257	9,034,041	39,876	....
1937-38 Season	74,334	2,479,731	12,389	....
1938-39 Season	57,212	2,021,810	9,535	....

CALIFORNIA CANNED SARDINE PACK

(Cases)

YEAR	MONTEREY AND SAN FRANCISCO BAY DISTRICT							SAN PEDRO DISTRICT						SAN DIEGO DISTRICT	GRAND TOTAL	YEAR
	1-lb. Ovals	1-lb. Talls	½-lb. Cans Misc.	½-lb. Fillets	5-oz. Talls	Other Sizes	TOTAL	1-lb. Ovals	1-lb. Talls	½-lb. Cans Misc.	5-oz. Talls	Other Sizes	TOTAL	TOTAL		
1912	17,702	. . . .	. . . .	. . . .	. . . .	1,072	18,774	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	18,774	1912
1913	73,686	. . . .	. . . .	. . . .	. . . .	. . . .	73,686	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	73,686	1913
1914	80,834	. . . .	. . . .	. . . .	. . . .	. . . .	80,834	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	80,834	1914
1915	46,625	. . . .	. . . .	. . . .	. . . .	609	47,234	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	47,234	1915
1916	97,100	. . . .	. . . .	. . . .	. . . .	8,532	105,632	2,512	. . . .	. . . .	. . . .	3,296	5,808	54,655	166,095	1916
1917	331,065	. . . .	. . . .	. . . .	. . . .	29,809	363,472	131,347	. . . .	. . . .	. . . .	546,033	679,120	147,602	1,190,194	1917
1918	593,448	. . . .	. . . .	. . . .	. . . .	26,151	619,609	325,587	. . . .	. . . .	. . . .	433,374	758,961	106,418	1,484,979	1918
1919	805,884	. . . .	. . . .	. . . .	. . . .	27,084	832,968	125,784	. . . .	. . . .	. . . .	105,741	231,514	87,033	1,151,515	1919
1920	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	706,726	. . . .	. . . .	. . . .	. . . .	. . . .	244,900	111,370	1,062,996	1920
1921	287,954	. . . .	. . . .	. . . .	. . . .	10,975	298,929	77,048	. . . .	. . . .	. . . .	3,765	80,813	9,370	389,112	1921
1922	353,188	. . . .	. . . .	. . . .	. . . .	1,479	354,667	340,938	. . . .	. . . .	. . . .	6,096	347,034	27,140	729,034	1922
1923	580,984	. . . .	. . . .	. . . .	. . . .	10,001	590,985	490,064	. . . .	. . . .	. . . .	2,769	492,833	48,205	1,132,023	1923
1924	631,774	. . . .	. . . .	. . . .	. . . .	22,416	654,190	693,133	. . . .	. . . .	. . . .	4,491	697,624	63,624	1,420,128	1924
1925	737,743	. . . .	. . . .	. . . .	. . . .	37,119	774,862	920,191	. . . .	. . . .	. . . .	2,685	922,876	56,041	1,753,779	1925
1926	1,158,133	. . . .	31,483	. . . .	. . . .	2,867	1,192,483	861,088	. . . .	. . . .	. . . .	21,702	861,481	88,419	2,163,755	1926
1927	1,341,872	. . . .	36,363	237	17,808	826	1,397,106	1,046,453	. . . .	. . . .	119,815	. . . .	1,166,268	62,038	2,625,412	1927
1928	1,511,535	4,569	43,754	159	80,252	2,495	1,642,764	945,676	9,652	. . . .	146,724	. . . .	1,099,052	73,514	2,815,330	1928
1929	2,039,526	54,618	16,969	11	75,101	2,187	2,188,412	1,438,159	76,271	8,072	168,039	33,753	1,724,294	28,753	3,941,459	1929
1930	1,579,408	74,043	19,692	391	141,524	3,751	1,818,809	863,254	106,460	2,909	228,965	8,138	1,209,726	40,989	3,069,524	1930
1931	1,004,215	43,722	11,280	. . . .	40,375	337	1,099,929	498,996	59,853	11,931	119,930	1,467	691,637	3,425	1,794,991	1931
1932	459,756	4,467	3,276	88	17,726	2,528	487,481	415,874	36,292	. . . .	54,197	. . . .	506,363	7,641	1,001,845	1932
1933	838,533	47,575	4,604	. . . .	38,013	1,532	930,217	365,750	57,969	. . . .	53,996	4,336	482,051	10,592	1,422,860	1933
1934	1,091,158	48,769	6,527	8,361	67,913	2,675	1,225,413	531,619	119,506	. . . .	164,735	. . . .	815,860	10,463	2,051,736	1934
1935	1,126,466	218,523	39,566	91,525	128,168	27,704	1,631,952	615,808	135,531	25,519	112,264	251	889,373	11,437	2,532,762	1935
1936	1,089,683	202,148	89,280	113,516	124,490	41,946	1,661,063	586,038	259,793	132,488	156,649	749	1,135,717	22,863	2,819,643	1936
1937	679,317	227,806	51,068	73,785	68,164	9,284	1,109,424	761,776	634,215	263,729	200,060	1,509	1,861,289	12,491	2,983,204	1937
1938	721,036	58,168	104,419	97,277	154,488	16,287	1,151,675	600,532	318,691	212,064	162,245	. . . .	1,293,532	19,056	2,464,263	1938
1939	1,248,747	310,168	125,251	141,900	138,217	28,538	1,992,821	627,524	308,896	217,100	178,072	1,520	1,333,112	229	3,326,162	1939
1940	933,955	249,195	158,300	151,518	225,975	18,384	1,737,327	664,241	398,960	230,771	156,681	72	1,450,725	37	3,188,089	1940
1941	1,601,506	1,092,720	234,093	182,703	296,568	54,961	3,462,551	689,210	870,256	216,972	151,384	2,136	1,929,958	2,775	5,395,284	1941
1942	802,795	663,309	8,283	75,386	94,755	59,695	1,704,223	619,881	1,342,030	85,776	90,672	2,918	2,141,277	1,285	3,846,785	1942
1943	1,045,451	832,934	128,438	. . . .	20,208	36,037	2,063,068	400,504	846,314	44,516	26,507	2,235	1,320,076	697	3,383,841	1943
1944	1,051,397	1,088,918	61,828	20,584	374	18,255	2,241,356	434,414	963,551	23,297	. . . .	1,040	1,422,302	. . . .	3,663,658	1944
1945	766,554	951,346	81,019	10,075	. . . .	102,391	1,911,385	444,649	1,480,175	48,215	. . . .	. . . .	1,973,039	. . . .	3,884,424	1945
1946	123,063	171,698	39,376	10,233	. . . .	9,050	353,420	602,008	2,073,679	73,125	. . . .	. . . .	2,748,812	. . . .	3,102,232	1946
1947	108,289	71,691	72,995	155,677	. . . .	4,181	412,833	510,760	802,243	29,327	57,260	. . . .	1,399,590	1,627	1,814,050	1947
1948	400,841	197,865	527,346	16,645	. . . .	994	1,143,691	611,927	970,569	347,991	120,413	. . . .	2,050,900	6,587	3,201,178	1948
1949	869,104	491,196	344,148	12,434	127,741	6,291	1,850,914	822,053	1,112,939	194,690	305,438	. . . .	2,435,120	. . . .	4,286,034	1949
1950	427,416	224,569	6,533	44,843	99,657	24,179	827,197	1,476,695	2,256,213	355,087	451,365	63,882	4,603,242	. . . .	5,430,439	1950
1951	377,754	75,721	2,785	12,285	95,257	7,120	570,922	1,030,080	971,971	74,273	368,611	36,785	2,481,720	. . . .	3,052,642	1951
1952	5,730	10	. . . . .	. . . . .	. . . . .	. . . .	5,740	60,116	34,694	1,513	1,317	2,450	100,090	. . . .	105,830	1952
1953	1,335	. . . .	. . . . .	. . . . .	. . . . .	. . . .	1,335	41,340	18,902	1,773	679	55	62,794	. . . .	64,084	1953
1954	175,998	15,498	. . . . .	. . . . .	35,808	. . . .	227,304	556,151	488,284	. . . .	104,751	18,240	1,191,990	. . .	1,394,730	1954

NOTE: Figures for 1954 are preliminary totals from official sources. Those for previous years have been corrected from statistics of the California Division of Fish and Game. Full segregation of the various sizes is not available for years prior to 1926 and is estimated for 1950.

* Where sizes are not segregated, they are combined with 1-lb. Talls. Figures for years prior to 1950 are given in cases "as they run", without reduction to standard cases. The great majority of the production, however, consists of 48-lb. cases. Figures for "Other Sizes" in 1950 and after have been reduced to standard cases, equivalent to cases of 48-1-lb. ovals.

reduction segment of the industry, Mr. Croker indicated.

• *TEMPERATURE FAVORABLE* — "The Marine Research Committee reported that sardines began moving into southern California waters from Mexico this spring in response to higher water temperatures," Mr. Croker said.

"That committee also reported that in 1954 water conditions were similar to those in 1948 and represented the first time since then that spawning has increased off California. Although fishermen enjoyed good catches in 1954, the committee reported, all indications are that the total Mexico-California population is much smaller than during the height of the industry."

Among the factors cited by Mr. Croker tending to control the catch during 1954 were:

1. Consumers changed to other foods when sardines became unavailable and are out of the habit of buying sardines.

2. Foreign competition has cut into the American and overseas market. When fish are plentiful, prices are low and vice versa. Thus, California canners cannot compete with foreign processors during time of scarcity.

Mr. Croker pointed out that the market for fish meal is fairly good and had the Fish & Game Commission allowed, the 1954 catch would have been much greater.

According to Mr. Croker, surveys by the department show that the bulk of the catch consists of fish in the second and third year of life, which have not yet reached their full spawning capacity.

Also surveys by the department and cooperating biologists indicate that most of the catch consisted of fish which had moved north from Mexican waters, rather than recruits to the local population.

Mr. Croker, in stressing the need for management of the species, pointed out that while economic conditions in 1954 had been effective in limiting the catch, the same conditions could not be expected for certain in any given year.

"Return of the sardines to southern California waters may be due to changes in oceanic conditions, but the fact still remains that if these fish are caught before they spawn there can be no revival of the fishery," he said.

"Survival of the sardine is too important to be left to the vagaries of the market and other conditions."

• *IMPORTS ABUNDANT* — The northern California sardine was fairly active during the year. Before the season opened ovals in tomato sauce were quoted at $8.50, but as the year ended they were selling for around $7.50. No. 1 talls, natural, were selling for $5.50-5.75, and 5-oz. 100s in tomato sauce were selling for around $6.00-6.25.

Canners had no particular inventory of fish, but buyers were loaded down with Japanese and South African sardines, and many market observers felt that California's sardine market has been lost, at least for the time being. Export California sardines ran into Japanese and South African sardines also in those markets in quantities.

Price of sardines for bait dropped from a reported high of $420 per ton in southern California to around $80 per ton, and bait boats were put on 20 ton limits. For the first time in many months fresh sardines for bait appeared in the Sacramento and San Francisco areas, indicating a good supply of bait sardines in southern California.

San Francisco's fleet of purse seiners had vanished, but Monterey's fleet of 22 boats was ready for the Aug. 1 opening.

• In addition to sardines, some anchovy, herring, jack mackerel, Pacific mackerel, and squid were packed in the San Francisco-Monterey Bay area, during 1954.

Some 3,970 tons of anchovies were received at canning plants in the area, and from this material 15,647 cases of 1-lb. 48s oval; 25,881 ½-lb. 48s buffet; 18,727 ½-lb. 48s oblong; 61,054 5-oz. 100s round, or a total of 121,309 cases were produced.

Herring received amounted to 231 tons, and 4,194 cases were packed; jack mackerel—2,437 tons, and 70,106 cases packed; 520 tons of Pacific mackerel—11,767 cases; 2,408 tons of squid—116,195 cases packed.

• Mackerel fishing in Southern California waters during 1954 was decidedly disappointing, particularly as pertains to Jack Mackerel. The catch

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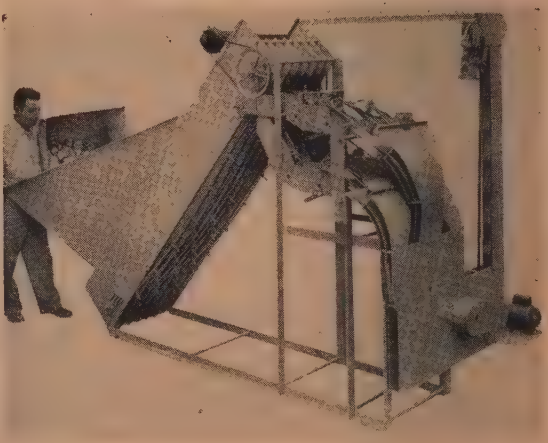

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of Pacific Mackerel was relatively better than Jack, reversing a condition which has prevailed for a number of years.

The mackerel pack for the year—358,000 cases of both varieties—was only a little more than half that of the year before, and a bare fraction of the 1,573,000 cases put up in 1952.

As a matter of fact, California's canned mackerel pack of 1954 was the smallest which had been produced since 1932.

As in previous years, the great majority of the mackerel pack went into 1-lb. tall cans.

● *PRICES OF FISH*—There was the usual dispute over price between boat owners and cannery operators and fishing did not start until the third week in August, with fishermen getting $55 per ton, minus the $10 charge per ton for trucking the fish from the Avila-Morro Bay area to Monterey. Later on when the southern California season opened, the price adjusted to a flat $47.50 per ton ex-vessel. By then fish were being landed for shipment of San Francisco and Monterey at Port Hueneme-Santa Barbara.

There were a number of changes in sardine processing plants during the year. Frank E. Raiter, president of San Xavier Fish Packing Co., Monterey, purchased the outstanding stock in the company owned by John Funston and the Louis Oleari Estate, and is now sole owner of the company.

Company headquarters were moved from San Francisco to Monterey. B. P. O'Connor, who was connected with the San Xavier company for 31 years, and was vice-president, went into his own shipping business in San Francisco.

Another Monterey sardine processing plant was sold. This time the Monterey Canning Co. went to Cannery Row Properties Co.

Although the sale price was not revealed it was estimated that it was about $100,000. The Monterey Canning Co. was one of the few remaining plants on Cannery Row that had been maintained in condition to operate on short notice.

It was founded in the 1920s by A. M. Allan, was owned for a time by the late George Harper, and was most recently the property of the Magnus Flause family. Later on the machinery was removed and shipped to Venezuela.

Death took a number of well known people in the California sardine industry during the year. Norbert S. Roesling, 55, partner in R. J. Roesling & Co., San Francisco, well known factors in the fish meal and oil business, were shocked to learn of his death after several weeks of illness.

Frank J. Cardinale, 42, president of the Monterey Purse Seine Boat Owners Association, and skipper of the purse seiner *Santa Lucia*, and his cousin, Jaques Cardinale, 42, were killed and five other men injured when gasoline exploded at a dock at Avila and the purse seiner destroyed.

Another link with the past in California's sardine industry snapped with the death of Pietro Ferrante, 87, known as the "father of the Monterey sardine industry." A native of Sicily, Mr. Ferrante came to California in 1899, settled in Pittsburg, and came to Monterey in 1907.

It is thought that he was the first to use a lighter to draw a net around a school of sardines and bring it to the side of a purse seiner.

In 1926 he and the late Angelo Lucido founded the San Carlos Canning Co., which became one of the largest plants on Cannery Row during the '30s when the sardine catches reached record breaking highs.

Mr. Ferrante sold his interest in San Carlos in 1939 and then built Oxnard Canneries, Inc., Monterey. He is also credited with organizing the first fishermen's union in Monterey and was a leader in the Italian colony there. In 1951 he was honored by the Italian government for "his great assistance to Italian immigrants."

E. B. Gross, 84, pioneer Monterey sardine canner, died in August. Mr. Gross came to Monterey when he was 17, and started driving a dray at $35 per month. By 1916 he had accumulated sufficient capital to allow him to enter the sardine canning industry just as it was beginning to boom under the need for food created by World War I.

A year later he was operating two plants on Cannery Row. These plants were wiped out by fire in 1925, but the next year he was ready to can again in a new plant. He became interested in banking and real estate and acquired vast holdings in Monterey county.

He sold his cannery, the E. B. Gross Co., in 1943, just about the peak of the industry.

Max Hoffman, 49, founder of the Hoffman Packing Co., Benicia, sardine reduction plant, which was later moved to McNear's Point, near San Rafael, died in September.

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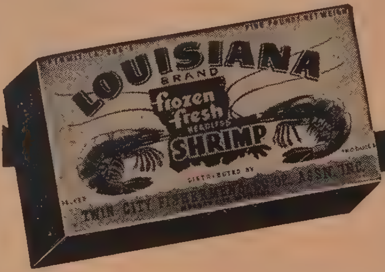

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MACKEREL

Mackerel fishing and packing declined sharply in California during 1954, with fish of both Pacific and Jack Varieties of Mackerel scarce and difficult for fishermen to catch.

Pack was down to 358,000 cases, barely half that of the year before, and far below the 1,573,000 cases produced in 1952.

1954 -California Mackerel Pack- 1954

PACIFIC MACKEREL				MONTH	JACK MACKEREL				All Mackerel Cases
Pounds Delivered	Cases 1-lb. Cans	Cases Other Sizes	Total Cases		Pounds Delivered	Cases 1-lb. Cans	Cases Other Sizes	Total Cases	
68,000	694	...	694	January	80,000	247	...	247	941
...	...	...	...	February	186,000	1,343	...	1,343	1,343
650,000	7,397	...	7,397	March	712,000	6,748	...	6,748	14,145
524,000	5,201	...	5,201	April	750,000	8,211	...	8,211	13,412
290,000	2,930	...	2,930	May	430,000	4,323	...	4,323	7,253
196,000	1,775	...	1,775	June	164,000	1,002	...	1,002	2,777
3,148,000	38,283	...	38,283	July	6,882,000	49,576	...	49,576	87,859
2,810,000	28,961	...	28,961	August	4,626,000	54,410	...	54,410	83,371
4,804,000	51,923	27	51,950	September	1,602,000	15,981	...	15,981	67,931
836,000	7,040	...	7,040	October	...	109	...	109	7,149
6,308,000	53,208	...	53,208	November	248,000	3,011	...	3,011	56,219
2,720,000	16,355	...	16,355	December	...	...	...	...	16,355
22,354,000	213,794	...	213,794	TOTALS	15,683,120	144,961	...	144,961	358,755

CALIFORNIA CANNED MACKEREL

Year	SAN PEDRO DISTRICT			SAN DIEGO DISTRICT			MONTEREY	GRAND TOTAL (Full Cases)	Year
	*1-lb.Cans (Full Cases)	†Other Size Cans (Full cases)	Total (Full cases)	1-lb. Cans (Full Cases)	Other Size Cans (Full Cases)	TOTAL (Full Cases)	Total (Full cases) ‡		
1926	....	268	268	4	5	9	....	277	1926
1927	10,725	....	10,725	....	118	118	....	10,843	1927
1928	357,136	2,337	359,473	25,110	239	25,349	1,030	385,852	1928
1929	477,570	27,006	504,576	86,246	3,720	89,966	1,476	595,572	1929
1930	122,870	....	122,870	4,250	39	4,289	117	127,276	1930
1931	100,912	....	100,912	305	....	305	....	101,217	1931
1932	84,385	4,058	88,443	184	....	184	....	88,627	1932
1933	578,902	38,163	617,065	100,883	4,729	105,612	7,722	730,309	1933
1934	942,507	126,538	1,069,045	115,654	12,303	127,957	61,083	1,257,085	1934
1935	1,409,922	195,771	1,605,693	105,081	4,436	109,517	46,026	1,761,236	1935
1936	990,360	60,250	1,050,610	113,075	9,533	122,608	55,139	1,228,357	1936
1937	727,656	14,309	741,965	30,482	3,011	33,493	13,856	789,314	1937
1938	828,284	71,741	900,025	44,856	3,125	47,981	5,643	958,649	1938
1939	869,474	20,323	889,797	73,608	1,247	74,855	2,604	967,256	1939
1940	1,311,778	47,304	1,359,082	39,467	768	40,235	142	1,399,459	1940
1941	811,467	6,096	817,563	19,484	....	19,484	6,700	843,747	1941
1942	579,053	9,479	588,532	17,456	3,663	21,119	4,539	614,190	1942
1943	827,040	....	827,040	4,255	....	4,255	7,997	839,312	1943
1944	970,772	13,324	984,096	266	....	266	2,060	986,422	1944
1945	584,318	1,658	585,976	....	....	....	3,641	589,617	1945
1946	602,458	33,772	636,230	....	....	....	80,438	716,668	1946
1947	1,298,820	58,589	1,357,409	....	....	....	164,790	1,522,199	1947
1948	767,662	43,668	811,330	224	101	325	158,991	970,646	1948
1949	853,433	15,968	869,401	....	....	....	54,703	924,104	1949
1950	1,059,877	17,940	1,077,817	....	....	....	331,628	1,409,445	1950
1951	988,139	28,091	1,016,230	...	...	...	24,070	1,040,300	1951
1952	1,507,204	44,223	1,551,427	...	...	...	22,318	1,573,745	1952
1953	576,767	11,294	588,061	...	...	...	10,244	698,305	1953
1954	276,882	...	276,882	...	...	...	81,873	358,755	1954

* Practically all in 1-lb. Talls. † Largely ½-lb. Flats. ‡ Includes San Francisco.

NOTE: – Pacific Mackerel and Jack Mackerel are combined in this table. District segregation since 1951 not available.

IT'S TOPS—

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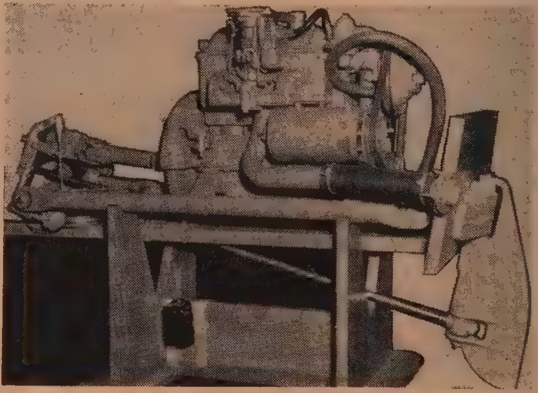

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With King Crab contributing 39,120 cases, 1954 Pacific crab canning reached a level of 116,375 cases, exceeded only in 1948-9.

- After dragging for four years, crab canning shot ahead sharply on the Pacific Coast in 1954—so sharply in fact that as the new year opened the market was showing the effect of the plentiful supply.

Prime feature of the year's packing was the astonishing rise of American King crab canning, which went from 6,479 cases in 1953 to 39,120 cases in 1954.

Thus King crab accounted for 33.6% of the Pacific pack — British Columbia included — from the standpoint of volume. With its higher price, King crab represented 39.3% of the total value.

King crab canning centered largely at Kodiak, Alaska, where three shore canneries were busy, operating through a large part of the year, and getting some excellent supplies from trawlers working in bays around Kodiak Island and Afognak Island, as well as in Shelikof Strait.

In addition to these shore operations, the trawling freezer-and-canner *Nordic Maid* produced a substantial pack of canned King crab on Bering Sea.

- *N. W. CATCH RISES*—Crab fishing along the coasts of Oregon and Washington recovered spectacularly in 1954 after several lean years. This was particularly true in the case of the Washington fishery, although the two

1954 -PACIFIC CANNED CRAB- 1954

COMPANY	Cannery Location	Cases 48 Halves
ALASKA		
Alaska Fresh Co.	Kodiak	945†
Aurora Packing Co.	Cordova	400
Coastal Glacier Seafoods	Hoonah	1,475
Fox Seafoods Co.	Sitka	700
Island Sea Foods Co.	Kodiak	15,833†
King Crab, Inc.	Kodiak	11,162†
Pacific Pearl of Alaska	Ketchikan	2,500
Shelter Cove Packing Co.	Cordova	113
Pacific Pearl Frozen Foods	Hydaburg	404
J. E. Shields Co.	Bering Sea	11,180†
Wm F. Smith Co.	Tenakee	2,926
N. E. Thompson Co.	Kake	980
TOTAL ALASKA		48,618
BRITISH COLUMBIA		
Queen Charlotte Canners	Massett	12,801
CALIFORNIA		
Tom Lazio Fish Co.	Eureka	362

COMPANY	Cannery Location	Cases 48 Halves
WASHINGTON		
Grays Harbor Crab Co.	Aberdeen	2,649
Kaakinen Fish Co.	Westport	4,654
Keystone Packing Co.	Ilwaco	1,939
Nelson Crab & Oyster Co.	Tokeland	7,500
Pacific Pearl Seafoods	Westport	7,842
Strand Fisheries	Hoquiam	3,500
West Coast Seafoods Co.	Tokeland	2,540
Whiz Fish Products Co.	Hoquiam	2,042
TOTAL WASHINGTON		32,666
OREGON		
Bell Buoy Crab Co.	Seaside	805
Columbia Rivers Packers Assn.	Astoria	3,395
Point Adams Packing Co.	Hammond	12,728
Port Orford Fish Co.	Port Orford	5,000
TOTAL OREGON		21,928
TOTAL DUNGENESS CRAB		77,255
TOTAL KING CRAB		39,120
GRAND TOTAL, ALL CRAB		116,375

NOTE: – All cases have been counted on the basis of 48 halves, but no attempt has been made to distinguish between the two sizes of "halves" – "standard" and "Tuna size". It should be noted that the large majority of the crab pack currently is canned in the latter style, 6½ oz. net. In current commercial practice the Pacific canned crab pack largely is marketed in half-cases of 24 cans, instead of in the 48-can standard case.

† King Crab.

1954 -Weighted Average Shellfish Prices at Seattle- 1954

SPECIES	Unit	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
Clams:													
Butter	lbs.	$0.09	$0.10	$0.10	$0.09	$0.09	...	...	...	...	...	$0.08	$0.08
Razor	lbs.	...	...	0.26	0.26	...	...	...	...	...	...	...	...
Little Neck	lbs.	0.13	0.13	0.13	0.13	0.13	$0.13	$0.13	$0.11	$0.12	$0.12	0.13	0.13
Clammeat	lbs.	0.45	0.35	0.30	0.35	0.35	...	...	...	...	...	...	...
Crabs, Dungeness, Cooked	lbs.	0.26	0.26	0.25	0.24	0.24	0.23	0.24	0.26	0.23	...	0.30	0.30
Crabs, Ocean	Doz.	2.63	2.65	2.65	2.65	2.65	2.65	2.65	...	...	...	3.75	3.75
Crabs, Puget Sound	Doz.	2.63	2.65	2.65	2.65	...	...	...	...	...	...	2.50	2.90
Crabmeat	lbs.	1.20	1.20	0.95	0.90	0.90	0.90	0.85	0.85	0.85	1.22	1.05	0.85
Octapus	lbs.	0.05	0.05	0.05	0.09	0.05	0.05	0.05	0.05	0.07	0.04	0.05	0.05
Oysters:	Gallon												
Olympia	"	21.00	21.00	21.00	21.00	21.00	21.00	21.00	...	...	22.00	22.00	22.00
Pacific	"	3.90	3.95	3.95	3.95	3.20	3.75	3.75	3.75	3.75	3.75	3.60	3.90
Coast	"	3.90	3.95	3.95	3.95	3.20	3.20	3.75	3.75	3.75	3.75	3.60	3.90
Shrimp, local		...	...	...	...	0.45	0.45	...	...	...	...	0.36	0.40

PACIFIC CANNED CRAB

(Shown in Standard Cases of 48 Half-pound Cans)

Year	Alaska	Washington	Oregon	California	American Total		British Columbia	North American Total	Year
					Cases	Value			
1954	48,618	32,666	21,928	362	103,574	$3,183,215	12,801	116,375	1954
1953	21,026	15,482	7,898	146	44,552	1,303,606	5,037	49,589	1953
1952	22,647	9,076	9,624	237	41,584	1,173,211	5,148	41,584	1952
1951	26,753	19,885	39,878	1,500	88,016	2,332,424	4,159	88,016	1951
1950	25,927	23,270	28,075	1,260	78,532	1,868,680	7,283	85,815	1950
1949	13,198	65,004	36,652	...	114,854	2,547,765	4,839	119,693	1949
1948	26,076	104,362	56,982	3,500	187,420	4,264,622	3,500	190,920	1948
1947	10,158	54,756	34,582	6,624	106,120	2,037,904	2,481	108,601	1947
1946	15,792	19,263	29,106	15,194	79,356	2,271,965	1,455	80,811	1946
1945	15,760	9,070	896	...	25,726	398,898	...	25,726	1945
1944	13,376	16,524	10,968	...	40,868	653,888	385	41,253	1944
1943	9,386	18,332	20,874	...	48,592	782,173	...	48,592	1943
1942	7,766	26,052	45,338	...	79,156	1,266,496	885	80,041	1942
1941	11,126	13,232	13,346	...	37,704	311,822	3,386	41,090	1941
1940	12,828	8,634	3,792	...	25,254	178,021	3,794	29,048	1940
1939	11,978	2,716	8,406	...	23,100	184,254	2,049	25,149	1939
1938	...	...	...	...	27,016	258,375	2,157	29,173	1938
1937	...	...	...	...	27,394	269,699	1,546	28,940	1937
1936	...	...	...	...	14,758	124,925	...	14,758	1936
1935	...	...	...	...	13,840	106,832	...	13,840	1935
1934	...	...	...	...	22,869	184,052	...	22,869	1934
1933	...	...	...	...	17,564	134,330	...	17,564	1933
1932	...	...	...	...	9,314	73,112	...	9,314	1932
1931	...	...	...	...	263	2,104	...	263	1931

previous years in Oregon waters had also been very poor.

Quite the reverse was true in Southeast Alaska, where the good production of 1952 and 1953 was followed by sharp reversal in 1954.

The relatively flush supply of domestic canned crab was supplemented by unexpectedly heavy offerings of Japanese goods, including a considerable pack of "snow" crab at prices sharply below those for King crab.

Combination of these circumstances, plus some westward pressure of Blue and Gulf canned crab into the market usually dominated by the Pacific variety, created a difficult situation in crab marketing early in 1955.

Possible curtailment of Alaska King crab fishing by a closed season during the early months of the year was forecast by United States Fish and Wildlife Service announcement of proposed regulations. This was sharply resisted by the industry, which contended that economic conditions would control the length of the season fished; and that King crab could be packed profitably only when they were in good condition and recovery high.

● *1955 REGULATIONS* — Actual regulations as announced late in January for the 1955 season apply a complete closure of King crab fishing in the Cook Inlet district for the first five months of the year—the period in which moulting generally occurs there.

In the Kodiak Island waters it is anticipated that closures designed to protect moulting crabs will be announced by field order on the basis of direct observation of the condition of the crabs in the catches.

This action was decided upon in order to prevent abuses arising from the taking and transport of crabs in the soft-shell condition. Such crabs usually die within a short time and must be wasted.

Further restrictions imposed on King crab fishing in the Cook Inlet area provide that only pots may be used in taking these crabs in Kamishak and Kachemak Bays.

In the crab fisheries for Pacific or Dungeness crab in waters of Prince William Sound and its environs a new regulation provides that each crab pot shall have an escape opening through which female and undersized male crabs may escape.

Washington Crab Landings

YEAR	Puget Sound	Grays Harbor	Willapa Harbor	Columbia River	TOTAL
	Pounds*	Pounds**	Pounds**	Pounds**	POUNDS
1936	441,892	451,890	865,194	....	1,758,976
1937	500,104	643,234	1,441,352	3,428	2,588,118
1938	521,180	387,728	1,831,716	....	2,740,624
1939	441,122	620,004	2,153,496	....	3,214,622
1940	428,692	1,134,182	3,341,754	....	4,904,628
1941	514,184	1,293,222	3,968,152	206,984	5,982,542
1942	989,186	2,262,696	2,134,818	249,304	5,636,004
1943	1,267,024	2,732,090	1,052,550	56,660	5,108,324
1944	1,790,118	2,622,316	1,529,196	83,326	6,024,956
1945	1,993,398	1,961,978	1,439,204	4,838	5,399,418
1946	2,284,810	3,674,536	2,022,004	121,335	8,102,685
1947	1,512,808	6,599,380	3,822,288	38,184	11,972,660
1948	1,933,426	9,080,584	4,241,256	614,184	15,869,450
1949	1,355,148	7,633,157	3,204,240	950,006	13,142,551
1950	2,373,316	2,171,072	1,427,042	399,440	6,371,166
1951	1,547,502	1,321,400	1,806,096	154,970	4,829,968
1952	915,807	1,373,708	1,892,842	82,580	4,264,937
1953	1,190,186	2,700,206	3,035,435	78,263	7,004,090
1954	1,500,000	2,800,000	3,000,000	180,000	7,480,000

*Conversion: 22 lbs. per dozen. **Conversion: 24 lbs. per dozen.

NOTE:– 1954 Puget Sound figures are incomplete but include best available estimates to Dec. 31, 1954.

OREGON CRAB LANDINGS

Year	Dozen												
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1945	17,006	19,199	17,315	41,706	47,675	43,305	10,820	10,413	4,226	9,135	9,807	12,419	243,026
1946	17,065	21,815	30,732	34,074	80,626	34,414	13,694	5,783	4,568	8,859	12,834	14,814	279,278
1947	22,660	27,457	40,555	46,527	78,649	50,317	20,806	7,188	3,813	3,686	8,621	3,971	314,250
1948	35,592	37,973	63,516	87,353	96,885	34,841	15,171	9,098	4,969	4,205	2,662	9,206	401,471
1949	49,617	22,681	52,571	60,613	73,273	45,310	19,539	11,433	4,828	4,770	8,914	20,312	373,861
1950	22,414	26,186	38,315	35,513	46,910	27,012	6,997	4,145	3,914	3,095	9,730	25,864	250,095
1951	34,161	39,080	41,361	49,042	54,348	11,740	4,764	3,742	2,065	...	...	...	240,303
1952	19,864	23,672	28,024	42,256	45,842	11,150	5,268	3,577	2,233	5,618	15,981	14,780	218,265
1953	15,790	28,080	49,241	58,797	60,383	18,252	6,143	3,822	2,769	4,087	17,105	58, 339	322,808
1954	61,369	62,746	86,731	72,434	36,170	7,789	4,710	3,451	1,818	1,370	......	......	339,588

Pacific canned oyster stew continues its rapid rise, and in 1954 used 45% of all Pacific Oysters going into canned items.

- Rocketing rise of canned oyster stew carried the Pacific Northwest pack of this product to 134,000 cases in 1954.

Actual oysters used in canned stew accounted for approximately 45% of the utilization of oysters for canning.

Obviously, stew requires a much smaller weight of oysters per case of product than goes into canned oysters *per se.* Popularity of oyster stew canned from Pacific oysters continued to increase widely and the diversion of canning oysters to this product in 1954 continued to increase at a rapid rate.

On a case-for-case basis, canned oyster stew exceeded the pack of canned oysters by approximately 38%.

With the gradual concentration of Pacific oyster canning in the hands of a few of the larger operators with established brands, the Pacific product is achieving wider distribution across the country. This is particularly true of the oyster stew, to the packing of which Pacific oysters appear to lend themselves with special success.

Weather conditions during the fall months of 1954 were generally unfavorable for the conditioning of the oysters on the Pacific Coast, with the result that less canning than usual had been done to the first of 1955.

The fresh oyster demand also had been excellent and had attracted a larger-than-usual portion of the prime oysters.

Efforts to trigger spawning by washing quantities of crushed ready-to-spawn oysters into the water over the beds failed in 1954 to duplicate the spectacular results obtained the year before.

A group of Pacific oystermen in 1954 formed the Claire Oyster Co. to support the researches of Dr. Trevor Kincaid in an effort to arrive at a means by which Pacific oysters could be induced to spawn under artificial conditions.

PACIFIC CANNED OYSTERS

SEASON OF 1953 – 1954

Company	Cannery Location	Cases of 48 Cans				
		No. 1 E.O. 10-oz.	Buffet 7¾-oz.	No. 1 Tall	Total Cases, as they run	Total Standard Cases, basis 48 No. 1 E. O.
E. H. Bendiksen Co.	South Bend, Washington	6,142	17,346	.....	23,488	20,019
Coast Oyster Co.	South Bend, Washington	26,000	23,000	3,000	52,000	49,200
Northern Oyster Co.	Oysterville, Washington	......	150	......	150	150
Wiegardt Bros.	Ocean Park, Washington	8,455	5,251	......	13,706	12,656
TOTAL		40,597	45,747	3,000	89,344	81,995

PACIFIC CANNED OYSTERS, equivalent of standard cases of 48 No. 1 E.O. packed in –

1953	114,687
1952	112,415
1951	132,140
1950	120,742
1949	113,989
1948	83,489
1947	57,205
1946	89,050
1945	3,184
1944	none
1943	583
1942	72,315
1941	178,445
1940	148,870
1939	112,549
1938	111,348
1937	110,872
1936	118,853
1935	88,062
1934	68,323
1933	32,315
1932	12,233
1931	7,930

PACIFIC CANNED OYSTER STEW

SEASON OF 1953 – 1954

Company	Cannery Location	Cases of 48 Cans			
		No. 1 E.O. 10-oz.	Buffet 7¾-oz.	Cases as they run	Total Standard Cases, basis 48 No. 1 E. O.
Coast Oyster Co.	South Bend, Washington	27,000	26,000	53,000	47,800
Hilton Seafoods Co.	Seattle, Washington	42,500	46,500	89,000	82,788
Northern Oyster Co.	Oysterville, Washington	200	...	200	200
Wiegardt Bros.	Ocean Park, Washington	1,760	1,954	3,714	3,323
TOTAL		71,460	74,454	145,914	134,111

PLANTINGS OF IMPORTED PACIFIC OYSTER SEED

YEAR	WASHINGTON				OREGON			California	British Columbia	TOTAL	Year
	Willapa Harbor	Grays Harbor	North Puget Sound	South Puget Sound	Coos Bay	Yaquina and Alsea	Tillamook				
1947	22,933	5,230	6,025	4,117	8,200	...	7,157	750	(a)2,292	56,704	1947
1948	14,685	1,150	5,562	1,962	3,400	1,550	1,005	850	2,675	32,839	1948
1949	17,357	7,425	6,429	4,748	290	1,930	2,500	350	4,844	45,873	1949
1950	16,512	1,550	6,830	5,745	4,425	1,300	3,575	565	5,204	45,706	1950
1951	18,569	2,250	8,685	7,119	6,749	1,500	1,274	350	(b)5,404	51,900	1951
1952	40,526	.....	15,335	7,954	455	.....	5,625	250	(c) 3,584	73,729	1952
1953	31,669	4,900	22,583	(d)	....	.....	(e) 8,810	250	1,435	69,647	1953
1954	32,087	7,325	12,210	10,528	....	.....	(e) 953	2,526	1,576	67,205	1954

(a) Includes 100 cases planted in Alaska. (b) Includes 4 cases planted in Alaska. (c) Includes 7 cases planted in Alaska. (d) Included with North Puget Sound.
(e) Includes all Oregon Coast points.

PACIFIC CLAM PACK IN PREVIOUS YEARS

Year	(Basis 48 halves per cases) RAZOR CLAMS				Year	(Basis 48 halves per case) HARD SHELL CLAMS			
	Alaska	Wash.& Oregon	B.C.	TOTAL		Alaska	Wash.	*B.C.	TOTAL
1929	28,270	63,526	13,050	104,846	1929	....	19,514	21,547	41,061
1930	33,937	54,746	12,623	100,324	1930	600	27,735	18,738	46,073
1931	43,460	53,412	8,658	105,440	1931	2,600	19,516	18,043	40,159
1932	69,147	46,002	8,457	123,606	1932	76	13,264	9,201	22,541
1933	38,213	38,772	....	76,985	1933	....	22,438	20,432	45,163
1934	31,655	30,232	....	61,656	1934	....	25,880	11,630	37,510
1935	34,864	53,057	....	87,921	1935	....	37,249	20,418	57,667
1936	29,900	49,692	....	79,592	1936	....	45,222	25,158	70,380
1937	29,044	20,373	....	49,417	1937	....	45,788	25,174	70,962
1938	42,305	64,167	....	106,472	1938	....	40,007	44,310	84,317
1939	35,258	60,205	....	95,463	1939	....	39,165	10,862	50,027
1940	41,556	51,705	....	93,261	1940	....	35,250	7,151	42,402
1941	22,736	27,629	....	50,365	1941	....	22,380	6,772	29,152
1942	46,703	3,999	5,568	56,270	1942	....	10,972	12,240	23,212
1943	48,692	1,732	5,821	56,275	1943	2,457	2,902	11,642	†34,001
1944	47,050	3,512	**	50,562	1944	11,630	19,863	**	†71,024
1945	43,476	38,152	**	81,628	1945	6,029	11,752	4,693	22,474
1946	51,594	51,063	**	102,657	1946	14,441	20,574	23,867	98,826
1947	24,726	42,970	....	67,696	1947	323	15,301	**	15,624
1948	34,425	11,720	....	46,145	1948	92	12,600	....	12,692
1949	42,103	4,482	923	47,518	1949	125	16,449	9,794 ½	26,368 ½
1950	54,534	849	1,583	56,966	1950	....	8,919	8,456	17,375
1951	44,082	11,014	3,196	58,292	1951	15	13,981	15,460	29,456
1952	25,960	9,843	***	35,803	1952	179	13,544††	24,592	38,315
1953	39,234	8,449	5,183	52,866	1953	164	13,281	19,249	32,694
1954	31,367	6,171	5,908	43,446	1954	...	10,858	19,092	29,950

† Total includes clams canned in California form clam meats produced in Mexico, 1700 cases in 1943, 39,531 cases in 1944, and 225,299 cases in 1945, and 39,944 cases canned in California in 1946. †† Includes a small amount canned in California. ** British Columbia totals not available.

*British Columbia figures for years 1932 to 1947 and 1951, 1952 and 1953 include some razor clams. *** Included with Hardshell.

WASHINGTON RAZOR CLAM PRODUCTION

YEAR	COPALIS BEACH (Pounds)			GRAYLAND BEACH (Pounds)			LONG BEACH (Pounds)			KALALOCK, etc.	Total Catch All Beaches (Pounds)
	# of Digs	Total Catch	Per Dig	#of Digs	Total Catch	Per Dig	# of Digs	Total Catch	Per Dig	Total Catch-Pounds	
1937	20,695	546,486	26.4	9,026	285,317	31.6	2,986	99,591	33.4	46,478	997,872
1938	37,064	1,366,441	36.9	20,765	882,619	42.5	9,410	364,383	38.7	44,670	2,650,355
1939	23,903	846,633	35.4	11,182	433,796	38.7	11,321	653,992	57.7	30,692	1,965,113
1940	25,343	604,338	23.8	13,582	347,435	25.5	25,115	1,159,123	46.1	14,886	2,125,782
1941	12,389	406,393	32.8	2,643	111,819	42.3	3,307	222,129	67.2	806	741,147
Reserve	7,965	347,693	43.7	—	—	—	—	—	—	—	—
1942	5,088	143,148	28.1	814	26,283	32.3	3,941	174,104	44.2	*	343,535
1943	5,284	164,907	31.2	1,005	24,728	24.1	799	20,627	25.8	*	210,262
1944	8,485	409,374	48.2	2,705	105,425	38.9	2,651	108,030	40.7	*	622,829
1945	14,519	1,124,965	77.5	5,289	512,298	96.9	4,255	418,673	98.4	1,235	2,057,171
1946	12,387	922,516	74.5	10,548	461,773	43.8	11,109	663,776	59.8	*	2,048,065
1947	16,681	1,164,321	58.5	6,564	305,122	46.5	9,105	544,657	59.7	*	2,014,100
1948	18,263	687,612	37.6	6,642	249,869	37.6	8,489	268,862	31.8	50,350	1,256,693
1949	14,496	475,649	32.8	5,412	177,227	32.7	1,220	42,169	34.5	26,686	721,731
1950	11,878	231,879	26.9	—	—	—	—	—	—	5,303	237,182
1951	14,583	700,173	48.0	—	—	—	—	—	—	—	700,173
1952	17,630	651,733	37.0	—	—	—	—	—	—	39,595	691,328
1953	13,203	504,050	38.1	—	—	—	724	60,267	83.2	28,863	593,180

* The small amount dug is included with Copalis Beach.

NOTE: — In 1950 the catch per dig was computed only on pounds sold, which equaled 5,205 digs for 140,017 pounds. 91,862 pounds of the quota were not sold and the number of digs for this unsold portion does not agree with the digs and pounds sold.

BONNEVILLE DAM SALMON ESCAPEMENT

Year	Chinook	Steelhead	Silver	Blueback	Chum	Total	Year
1938	271,799	107,003	15,185	75,040	2,117	471,144	1938
1939	286,216	121,922	14,382	73,382	1,168	497,070	1939
1940	391,588	185,161	11,917	148,805	1,729	739,200	1940
1941	461,458	118,087	17,911	65,745	5,270	668,471	1941
1942	403,938	151,345	12,401	55,475	1,865	625,024	1942
1943	313,123	92,131	2,547	39,845	790	448,436	1943
1944	240,763	100,521	4,208	15,071	954	361,517	1944
1945	297,488	120,144	791	9,501	727	428,651	1945
1946	445,743	142,548	3,897	74,354	1,178	667,720	1946
1947	480,376	135,434	11,174	171,139	202	798,325	1947
1948	419,555	139,062	4,081	131,541	3,636	697,875	1948
1949	277,697	119,285	1,004	51,444	2,028	451,458	1949
1950	357,375	114,079	10,153	77,993	1,069	560,669	1950
1951	331,788	140,689	5,201	169,428	1,051	648,157	1951
1952	420,879	260,990	7,768	184,654	1,505	875,796	1952
1953	332,479	223,915	13,018	235,219	1,728	806,359	1953
1954	320,945	176,254	4,062	130,107	1,569	632,937	1954

Pacific clam canning in 1954 held closed to the pattern of recent years. Aggregate production registered a moderate decline from the year previous, but was closely comparable with the average packs of recent years. Variations may be taken to reflect minor shifts in abundance and market demand.

● Competitive factors, notably the movement of the Atlantic sea clams into the Pacific market, tended to hold the Pacific Coast canned clam pack of 1954 to rather sober levels.

Production was somewhat short of 1953, but comparable with the averages of recent years. Razor clam canning was down somewhat from the averages, despite better abundance on the Washington coast. The import situation served to discourage the smaller operators and production of this variety was largely in the hands of the Halferty interests.

Tendency of the smaller American operators to withdraw from clam canning, particularly in razor clams, reflects the seriousness of their competitive problem.

Atlantic coast minced clams at lower prices than can be quoted on razor clams, have moved into the Pacific market to a degree which is most discouraging to the smaller packers.

1954-PACIFIC CANNED CLAM PACK-1954

Company	Cannery Location	RAZOR CLAMS					
		1-lb. Talls 48's	No. 1 E.O. 48's	½-lb. 48's	No. 10 -6's	Total Cases as they run	Total Std. Cases basis 48-½'s
Aurora Packing Company	Cordova, Alaska	...	...	500	...	500	...
Bell Buoy Crab Company	Seaside, Oregon	...	...	139	...	139	...
Big Point Seafood Company	Cordova, Alaska	...	...	500	...	500	...
G. P. Halferty & Company	Cordova, Alaska	...	...	30,030	...	30,030	...
Mohawk Packing Company	Moclips, Washington	...	...	1,322	...	1,322	...
Pioneer Canneries, Inc.	Aberdeen, Washington	...	...	4,710	...	4,710	...
Shelter Cove Packing Company	Cordova, Alaska	...	...	45	...	45	...
Tapley Packing Company	Cordova, Alaska	...	...	292	...	292	...
TOTAL U.S. RAZOR CLAMS		...	...	37,538	...	37,538	37,538
Queen Charlotte Canners	Massett, B.C.	...	...	5,908	...	5,908	5,908
TOTAL RAZOR CLAMS		...	...	43,446	...	43,446	43,446
		HARDSHELL CLAMS					
Bugge Canning Company	Sequim, Washington	507	262*	200	125	(a) 1,094	...
Iwersen Canning Company	Pt. Roberts, Washington	649	1,153	914	799	(b) 3,515	...
Scheerer Canning Company	Everett, Washington	250	...	3,315	...	(c) 3,565	...
TOTAL U.S. HARDSHELL CLAMS		1,406	1,415	4,429	924	8,174	10,858
Miscellaneous	British Columbia	...	...	19,092	...	19,092	19,092
TOTAL HARDSHELL CLAMS		1,406	1,415	23,521	924	27,266	29,950
GRAND TOTAL, ALL CLAMS		1,406	1,415	66,967	924	70,712	73,396

* Actually 12-oz. cans. (a) Also packed 1,060 cases of nectar. (b) Also packed 6,697 cases of nectar in containers of various sizes and types; and 955 cases of clam chowder in No. 1 Tall 48's. (c) Also packed 1,977 cases of nectar in 6-oz. tins, 24's.
NOTE:– Hilton Seafoods Company also packed 5,000 cases of clam chowder.

OREGON CLAM LANDINGS

YEAR	Pounds												
	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1945	10,481	23,314	53,499	29,843	29,458	57,569	67,578	34,961	21,768	12,505	9,341	10,822	361,139
1946	12,150	30,471	61,310	33,600	44,313	67,755	41,399	31,983	21,130	8,883	18,237	12,519	383,750
1947	26,936	33,572	47,126	31,537	58,325	38,980	66,384	33,868	13,353	3,201	12,533	3,199	369,014
1948	19,953	15,875	33,408	38,856	61,816	50,750	55,484	40,914	15,631	11,211	5,518	6,473	355,889
1949	12,859	5,924	23,428	29,333	70,451	38,844	36,599	29,888	13,678	41,825	28,866	5,846	337,541
1950	9,204	15,981	19,317	31,079	78,537	107,309	45,183	52,794	36,306	33,708	37,564	13,747	480,729
1951	6,929	16,749	34,942	41,729	60,359	72,691	80,390	36,295	19,016	...	...	...	369,100
1952	8,320	24,363	30,038	47,825	95,815	67,068	74,881	52,471	24,533	39,970	24,680	6,200	496,164
1953	3,052	12,917	14,177	50,671	94,673	78,799	54,518	27,501	20,396	18,526	2,930	4,664	382,824
1954	4,343	10,651	17,084	23,803	53,695	51,915	40,770	34,263	11,415	7,440	...	...	255,379

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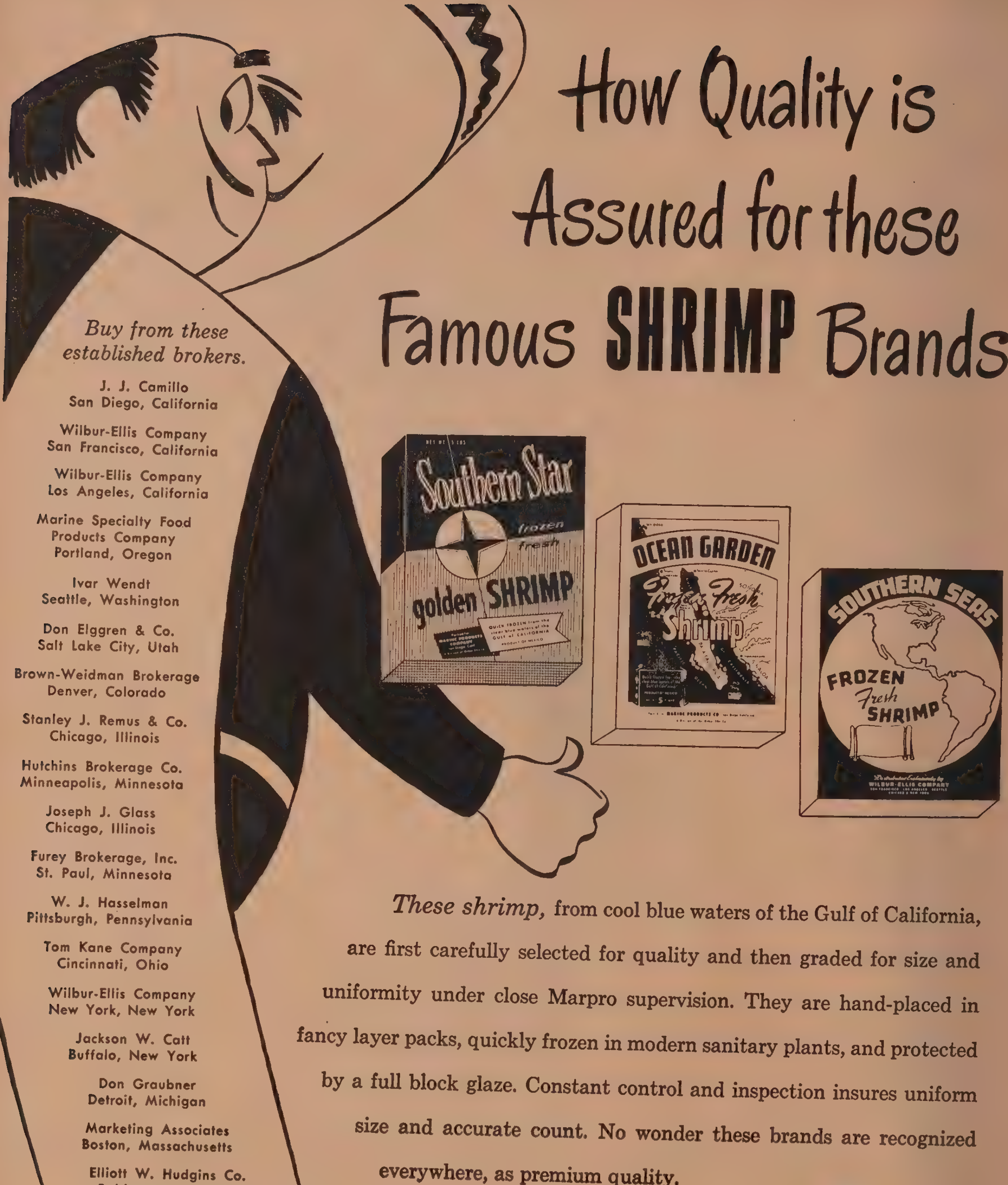

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Production and marketing of Mexico's Pacific shrimp steadied and strengthened in 1954 after the turbulent experiences and high prices of the previous year.

- Volatility is a characteristic of Mexico's Pacific shrimp industry, where sharp variations in supply are coupled with the movement of a market affected sharply by supplies of shrimp from eastern waters.

Production during the first half of 1954 showed material improvement over that of the preceding six months. The last half of 1953 was characterized by lowered production and sky-high prices. These partially offset the effect of low production for the producer and packer, but they had a very serious and adverse effect upon the general shrimp market. The full impact of this damage was not felt until the start of 1954.

Mexico's catch of Pacific shrimp during the first two quarters of 1954 ran 60 to 70% Brown, with mixed sizes. The shrimp caught in the northern end of the Gulf of California during this period consisted of the beautiful white shrimp characteristic of this area, with an admixture of light tan shrimp running through the catch.

In January, 1954, shrimp boats were averaging 1.5 to 2 tons per boat, with the shrimp 60% Brown and 40% White.

Pacific Fisherman is indebted to Gil Kuhn of Marine Products Co., San Diego, for assistance in assembling the data presented in this article on Mexico's Pacific shrimp operations and operators.

In March the Guaymas boats were averaging 1.5 tons on 12-day trips, with the catch running 90% Brown and sizes mixed.

In April of that year the catch was higher, 1.5 to 2 tons, of which 30 to 40% were Blue shrimp, the remainder Brown. Boats fishing in the Pacific were getting 2 to 2.5 tons per boat.

May catches ran from 70 to 90% Brown, with sizes varied.

- During the first quarter of the year three freezer boats set out for Salina Cruz, *Mahoning,* owned and operated by Hernando de Cima; *Tongareva,* owned and operated by Pesquera de Topolobampo; and *Pan-American,* owned and operated by Armadores del Pacifico. *Guaymense,* another freezing boat, formerly owned by Pesquera e Industrializador de Guaymas and sold to Congeladora del Pacifico at Mazatlan, was set to go to Salina Cruz, but did not leave port during 1954.

In February production at Salina Cruz dropped to 1.5 tons per boat.

During the active period there the *Pan-American* froze and stored shrimp from boats belonging to Armadores del Pacifico, Cabo Haro, and Mar Bermejo.

Tongareva froze and packed her own production.

Mahoning froze and packed for the Hernando and Ernesto de Cima fleet, the Pesquera Teresita boats and the Camaronera vessels.

Production at Salina Cruz continued fair into March, when most of the fishing boats returned to their home ports at Guaymas and Mazatlan.

Fishing was poor during June and July, and most of the boats were tied-up by the end of June.

After the summer closed season, bay shrimping started in the lagoons, estuaries and protected waters September 1. Production of Bay shrimp for Pesquera de Topolobampo was up rather sharply during September, 15 to 18% above that of the month a year before. On the other hand, fishing for La Reforma, good during 1953, was very poor in September, 1954. September production from Guaymas Bay was about 65 tons.

- A significant change in the distribution pattern for Pacific shrimp from Mexico occurred in August, 1954, when Marine Products Company of San Diego took over the entire shrimp operation for both the Wilbur-Ellis Company and Marine Products, which now handles the importation, sales and distribution of all shrimp for these companies. In addition to the original producers and packers, Marpro now has working with them: Productos Marinos San Felipe, S.A., Mexicali;

MEXICAN SHRIMP EXPORTS THROUGH CALIFORNIA AND ARIZONA

1953-54				1952-53			
MONTH	Fresh Pounds	Frozen Pounds	Total Pounds	MONTH	Fresh Pounds	Frozen Pounds	Total Pounds
November '53	109,516	4,911,602	5,021,118	November '52	92,212	2,461,830	2,554,042
December '53	41,197	4,088,886	4,130,083	December	19,617	1,880,634	1,900,251
January '54	95,072	2,212,321	2,307,393	January '53	9,243	1,393,798	1,403,041
February '54	14,185	1,512,620	1,526,805	February	10,494	1,062,930	1,073,424
March '54	11,006	1,794,138	1,805,144	March	9,750	985,232	994,982
April '54	2,715	1,857,828	1,860,543	April	10,274	1,077,009	1,087,283
May '54	560	1,646,182	1,646,742	May	24,170	1,069,515	1,093,685
June '54	21,241	1,925,446	1,946,687	June	39,822	2,132,552	2,172,374
July '54	...	966,485	966,485	July	6,700	1,075,916	1,082,616
August '54	...	210,172	210,172	August	...	170,970	170,970
September '54	72	924,201	924,273	September	...	498,934	498,934
October '54	107,857	2,527,018	2,634,875	October	117,531	3,721,547	3,839,078
TOTAL	403,421	24,576,899	24,980,320	Total	339,813	17,530,867	17,870,680

1954 - FISHERY PRODUCTS IMPORTED FROM MEXICO - 1954

(ENTERED THROUGH CALIFORNIA AND ARIZONA)

Pounds

Species	Nov. '53	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	Total
Fish:													
Cabrilla	...	370	...	...	...	...	...	1,535	...	1,000	1,530	...	4,435
Carbina, Fresh & Frozen	836	5,900	...	540	5,928	92,008	6,004	11,036	30,720	3,650	...	...	156,622
Barracuda	...	...	...	...	...	...	...	...	50,836	54,429	...	...	105,265
Flounder	...	...	1,760	...	...	...	...	...	...	...	...	...	1,760
Sea Bass: Wht. & Blk (frozen)	4,968	...	...	...	...	...	2,489	1,440	54,436	45,729	...	...	109,062
Tortuava	...	31,090	82,183	197,332	249,731	91,766	26,612	9,568	...	...	...	...	688,282
Tuna, Bluefin	...	...	...	...	...	...	...	222,494	150,260	81,158	2,515	5,660	462,087
Tuna, Albacore	...	...	...	...	...	...	...	...	...	2,033	...	...	2,033
Tuna, Skipjack	...	...	...	...	...	...	...	...	...	1,245,075	...	17,600	1,262,675
Unclassified, Fresh & Frozen	39,936	89,564	46,681	60,277	78,750	115,576	60,807	83,316	28,978	31,786	44,734	81,438	761,843
Dried & Salted	...	...	...	...	...	...	...	503	...	...	...	5,100	5,603
Yellowtail	...	...	...	...	...	...	...	12,082	...	...	...	...	12,082
Yellowfin	...	...	...	...	...	...	...	...	...	852,331	...	...	852,331
Rock Cod	...	...	...	...	...	...	...	...	...	...	3,473	...	3,473
TOTAL	45,740	126,924	130,624	258,149	334,409	299,350	95,912	341,974	315,230	2,317,191	52,252	109,798	4,427,553
Shellfish:													
Abalone Canned	296,208	88,272	15,552	...	9,600	...	37,151	606,192	206,256	386,880	236,472	293,856	2,176,439
" Dried	...	...	1,400	8800	4,200	1,550	...	...	...	6,325	...	5,100	19,375
Clams, incl. Clammeat Fresh & Frozen	11,092	38,090	15,700	...	12,075	9,884	13,731	35,916	20,355	42,925	18,446	11,178	229,392
Sardines, frozen	...	...	...	...	...	...	...	127	...	...	...	...	127
Shrimp, Fresh & Froz.	5,021,118	4,130,073	2,307,393	1,526,805	1,805,144	1,860,543	1,646,742	1,946,687	966,485	210,172	924,273	2,634,875	24,980,310
Carbina, Dried	...	...	...	...	...	...	...	...	238	...	...	...	238
Spiny Lobsters	340,215	317,619	395,475	448,180	199,760	2,733	...	...	...	...	...	31,345	1,735,327
TOTAL	5,668,633	4,574,054	2,735,520	1,975,785	2,030,779	1,874,710	1,697,624	2,588,922	1,193,334	646,302	1,179,191	2,976,354	29,141,208
Other Fishery Products:													
Liners: Sea Bass	9,842	...	...	520	9,154	...	...	450	...	...	...	...	19,966
Shark	...	36,134	12,289	10,283	18,439	...	...	21,600	13,624	38,625	19,645	14,212	184,851
Miscellaneous	...	...	...	527	1,070	...	...	...	...	30,000	...	33,280	64,877
Meal	...	...	67,000	...	...	...	...	...	...	...	...	...	67,000
Shark Fins	...	5,378	1,941	3,654	2,047	2,544	...	6,682	930	3,744	3,001	6,754	36,675
TOTAL	9,842	41,512	81,230	14,984	30,710	2,544	...	28,732	14,554	72,369	22,646	54,246	373,369
GRAND TOTAL	5,724,215	4,742,490	2,947,404	2,248,918	2,395,898	2,176,604	1,793,536	2,959,628	1,523,118	3,035,862	1,254,089	3,140,398	33,942,130

Pesquera Santa Rosalia, S.A., Guaymas; Pesquera Teresita, S.A., Guaymas; Camaronera, S. A., Guaymas; Mariscos Tropicales, S.A., Mazatlan; Congeladora Union, S.A., Mazatlan.

Crest Importing Co., San Diego, is representing these accounts: Congeladora del Pacifico, S.A., Mazatlan; Refrigeradora del Noroeste, S.A., Mazatlan; Productos Congelados, S.A., Guaymas; Pesquera de Los Mochis, Guaymas; Congeladora de Salina Cruz; Pesquera e Industrielizadora de Guaymas; Ismael Almada de Guaymas; Jose Angel Castro de Culiacan.

- Shrimping in the outer waters of the Gulf of California, using trawlers, started with October, 1954. Production at Mazatlan ranged 47 to 50% below that of even month in 1953.

November saw the Guaymas catch start down, while Mazatlan continued poor, showing a decline of 45 to 50% to the middle of December. At Guaymas production for the last quarter of 1954 was from 25 to 30% below that of the same three months in 1953.

The new season's start in the fall of 1954 was marked by larger sizes—fewer shrimp, but bigger. Also, Brown shrimp appeared in the catches earlier than usual, during November.

Prices at the opening of the 1954-5 season were affected adversely by a substantial carryover of goods.

- Details of a number of the principal shrimp operations of the Pacific slope of Mexico follow:

Armadores del Pacifico, S.A.—Operates own fleet and does own packing and freezing in space leased from Productos Congelados.

Pesquera Cabo Haro, S.A.—Operates its own fishing fleet.

Pesquera de Topolobampo S.A.—Operates its own fleet of 42 boats, and also has extensive bay shrimp production; rated the largest shrimp plant in Mexico.

Pesquera Gaf of Guaymas is a two-boat operation.

Productos Marinos de Guaymas, S.A. is the original shrimp operation on the west coast, operating its own fleet and packing in its own plant.

Industrias del Mar S.A. operates a large fleet of fishing boats out of Guaymas.

Cia. Maritima & Pesquera Mar Bermejo S.A. has its own fleet and does its own packing in packing and freezing space leased from Productos Cangelados S.A.

Cia. Costamex S.A. operates its own fleet, but has its production custom-packed by Armadores del Pacifico.

Pesquera Santa Rosalia operates a small fleet of its own fishing boats.

Congeladora del Pacifico S.A. is a fleet owner and operator with its own packing and freezing plant.

Refrigeradora del Noroeste S.A. also is a fleet and plant operator with its own facilities of production and packing.

Productos Cangelados S.A. operates its own fleet and a packing and freezing plant of sufficient size for lease of space to other operators as well as handling the company's own production.

Pesquera de Los Mochis and *Congelados de Guaymas S.A.* are associated firms.

Embacadoras Calidad S.A. has two plants, one at La Reforma, which they purchased from Hernando de Cima and the Refrigeradora Comercial de Culiacan. Their production is largely of Bay shrimp, drawn from a small fleet.

Mariscos Tropicales S.A. has a large number of boats under contract for production; buys shrimp and also sells.

Hernando and Ernesto de Cima operate shrimp trawlers and process their shrimp at Productos Cangelados.

Among other companies which operate their own fleets, but do not have plants, are: *Armadores Unidos, Congeladora Union S.A., Pesquera Teresita S.A., Camaronera S.A., Hielera Congeladora del Golfo de Cortes S.A.*

Productos Marinos San Felipe S.A. at Mexicali, near the head of the Gulf, serves its own plant with a small fleet.

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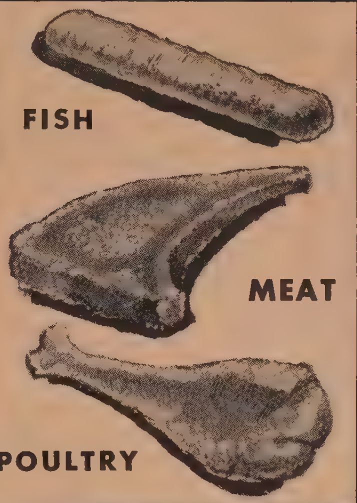

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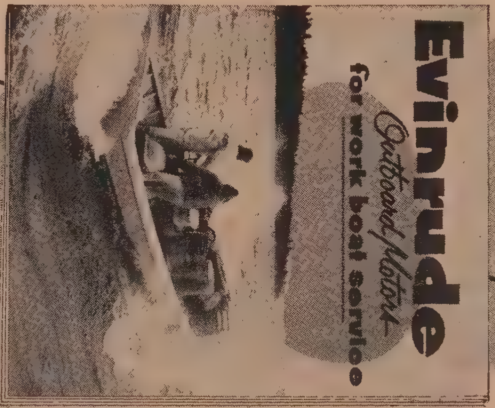
1954 -Coastwise Receipts at Seattle from Alaska- 1954

SPECIES	Pounds Dec. '53	Jan. '54	February	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCTOBER	NOV.	12 Months Total	TOTAL 1953
Halibut Frozen	965,490	487,444	915,811	607,119	56,622	...	732,986	1,637,560	1,825,329	831,437	2,250,818	1,360,052	11,670,668	9,883,037
Herring Frozen	...	44,080	1,600	50,000	...	975	...	...	70,000	...	...	...	166,655	13,000
Sablefish Frozen	133,332	50,860	171,145	156,850	13,298	38,400	...	69,750	260,814	413,480	188,388	172,618	1,668,935	652,865
Salmon:														
Chinook	2,100	...	...	10,239	5,500	5,200	4,600	...	...	...	...	...	27,639	53,463
Chinook, Frozen	27,395	134,696	49,232	30,745	33,061	19,560	23,950	29,200	269,588	188,883	207,794	34,005	1,048,109	787,470
Chum, Frozen	66,876	1,750	15,000	88,000	...	156,246	...	...	300,364	73,143	463,083	125,723	1,290,185	545,515
Pink, Frozen	...	...	...	...	...	...	...	...	228,370	70,464	43,289	9,025	351,148	202,683
Silver	...	...	...	...	...	...	...	...	105,000	...	...	...	105,000	
Sivler, Frozen	99,646	163,250	82,500	7,500	...	5,000	...	7,750	455,171	985,104	629,757	469,410	2,905,088	1,299,374
Sockeye, Frozen	...	...	...	...	...	...	...	...	2,047,000	70,000	...	...	2,117,000	1,059,614
Clammeat, Frozen	38,496	...	...	...	...	...	...	...	...	...	...	...	38,496	15,110
Crabs	...	...	...	...	...	...	...	800	1,550	...	719	...	3,069	150,000
Crabs, Frozen	...	5,765	1,008	...	...	...	31,772	...	32,700	18,511	58,519	7,930	156,205	222,583
Crabmeat, Frozen	...	3,300	7,985	25,695	20,400	36,150	2,150	8,709	114,320	185,790	102,360	148,590	655,449	786,307
Shrimp, Frozen	9,240	4,425	16,150	4,744	...	10,560	15,687	...	...	...	860	5,110	66,776	45,573
Shrimpmeat, Frozen	72,746	44,704	10,243	19,474	21,944	33,986	61,106	30,184	9,550	3,120	12,152	47,006	366,215	425,113
Total Fresh	2,100	...	...	10,239	5,500	5,200	4,600	800	106,550	...	...	...	134,989	203,463
Total Frozen	1,413,221	940,274	1,270,674	990,127	145,325	300,877	867,651	1,783,153	5,613,206	2,839,932	3,957,020	2,379,469	23,501,729	15,938,244
GRAND TOTAL	1,415,321	940,274	1,270,674	1,000,366	150,825	306,077	872,251	1,783,953	5,719,756	1,839,932	3,957,739	2,379,469	23,636,718	16,141,707
Cured Fish:	...	19	...	...	...	...	...	13	...	...	66	...	98	186
Sablefish, Salted Bbl.	12	...	1	15	16	...	...	897	460	684	133	37	2,255	3,340
Salmon, Mild Cured Tcs.	21	...	...	...	...	...	...	...	372	43	213	9	658	974
Salmon Salted Bbl.	...	2,800	...	...	...	...	...	...	...	...	...	...	2,800	
Livers, Frozen														

new book



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Halibut production from North Pacific banks in 1954 made an all-time record, an achievement due to successful conservation under international treaty.

- Harvesting more than 70,000,000 pounds of halibut from the banks for the first time in history—and in only a few weeks of time—the Pacific halibut fleet in 1954 came into the reward of years of restraint on the part of the fleet, and the fruit of studious research, followed by effective administration.

Year 1954 will stand-out always in the history of the Pacific halibut fishery for several reasons, but primarily because it afforded full demonstration of the degree to which the resource had been restored under the concept of international cooperation for the conservation of an ocean fishery—first tried in the case of the Pacific halibut.

In the 30 years which had passed since the halibut commission began its researches the resource had been rebuilt to something like its original stature—not to the level of the virgin fishery, true; but to the point where

1954 – PACIFIC HALIBUT CATCH-AREAS 2 and 3 by Months

MONTH	Pounds								
	AREA 2*			AREA 3*			TOTAL		
	U. S.	Canada	Total	U. S.	Canada	Total	U. S.	Canada	Total
May	7,265,000	8,233,000	15,498,000	1,609,000	243,000	1,852,000	8,874,000	8,476,000	17,350,000
June	5,968,000	5,106,000	11,074,000	11,655,000	5,715,000	17,370,000	17,623,000	10,821,000	28,444,000
July	119,000	28,000	147,000	6,538,000	3,648,000	10,186,000	6,657,000	3,676,000	10,333,000
August	5,529,000	4,056,000	9,585,000	3,207,000	243,000	3,450,000	8,736,000	4,299,000	13,035,000
September	248,000	74,000	322,000	396,000	125,000	521,000	644,000	199,000	843,000
October	99,000	26,000	125,000	....	....	....	99,000	26,000	125,000
November	39,000	10,000	49,000	....	....	....	39,000	10,000	49,000
TOTAL	19,267,000	17,533,000	36,800,000	23,405,000	9,974,000	33,379,000	42,672,000	27,507,000	70,179,000

These totals include 776,000 lbs. of halibut which were taken incidentally to blackcod fishing in Area 2 and 8,000 lbs. in Area 3, as allowed by the 1954 Regulations of the International Pacific Halibut Commission.
This table does not include the partially estimated amount of 616,000 lbs. landed from Areas 1A and 1B.
* Area 2 includes all grounds between Willapa Bay and Cape Spencer and Area 3 all grounds west of Cape Spencer including the present Areas 3A and 3B.
NOTE: – 1954 figures of the International Pacific Halibut Commission are preliminary and subject to further correction.

1954 -Seattle Halibut Fleet Landings by Months-1954

MONTHS	Trips	HALIBUT NO. 1		HALIBUT NO. 2		LINGCOD		ROCKFISH		SABLEFISH		TOTAL	
		Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
January	4	...	...	...	...	17,179	$ 2,825	629	$ 84	...	...	17,808	$ 2,909
February	3	...	...	...	...	10,700	1,797	500	70	...	...	11,200	1,867
March	5	...	...	...	...	44,614	4,746	2,959	322	...	...	47,573	5,068
April	-	...	...	...	...	...	...	...	...	...	...	...	...
May	78	2,061,978	$ 400,190	739,162	$ 125,647	3,079	154	1,038	49	2,016	$ 206	2,807,274	526,246
June	88	2,165,901	462,410	1,202,033	224,519	2,739	142	1,445	72	33,699	5,807	3,405,817	692,950
July	106	1,812,522	401,727	2,215,984	435,931	1,084	56	4,676	215	98,325	16,910	4,132,591	854,839
August	143	3,216,379	592,698	1,959,260	327,305	12,482	639	22,308	1,100	309,424	48,469	5,519,853	970,211
September	88	301,361	73,830	188,891	36,199	7,549	376	67,590	3,369	971,034	145,333	1,536,425	259,107
October	55	83,982	26,048	...	...	7,441	372	34,715	1,736	547,436	84,153	673,574	112,309
November	20	38,851	12,668	...	...	30,514	3,070	22,582	1,154	262,189	40,306	354,136	57,198
Total	590	9,680,975	$1,969,571	6,305,330	$1,149,601	137,381	14,177	158,442	8,017	2,224,123	$ 341,184	18,506,251	$3,482,704
1953 Total	486	8,072,514	$1,457,140	4,912,713	$ 787,245	85,126	$ 8,441	137,648	$ 6,703	1,902,412	$ 285,891	15,110,413	$2,545,420
1952 Total	527	6,613,702	1,544,979	4,685,046	1,018,696	522,490	73,791	181,359	9,757	1,597,801	240,853	13,600,398	2,888,076
1951 Total	485	6,011,835	1,362,710	3,628,699	740,182	279,953	39,354	244,289	16,453	2,004,053	265,082	12,168,829	2,423,781
1950 Total	371	4,461,658	1,237,069	2,921,919	730,756	363,641	32,974	152,139	8,052	1,090,129	196,838	8,989,486	2,204,577
1949 Total	473	4,953,126	1,119,834	4,166,069	797,911	418,202	39,457	192,544	12,894	1,813,775	177,709	11,543,370	2,147,796
1948 Total	461	4,990,417	1,136,824	4,089,321	742,761	491,683	53,744	229,698	14,387	1,372,309	227,947	11,200,428	2,175,663
1947 Total	302	3,705,948	972,481	1,887,355	423,403	301,745	31,630	165,098	12,149	1,378,694	179,151	7,438,840	1,619,199
1946 Total	458	6,823,696	1,509,839	6,299,384	1,286,742	261,803	23,787	218,598	14,136	1,358,433	199,832	14,961,914	3,034,336
1945 Total	459	6,547,387	1,148,683	5,376,141	2,008,265	893,283	86,952	287,623	24,030	572,376	65,816	13,676,821	2,185,062

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Pacific Halibut Catch by Areas and Nationalities

Pounds

YEAR	AREA 1	AREA 2†			AREA 3†			TOTAL American	TOTAL Canadian	GRAND TOTAL	YEAR
	American	American	Canadian	Total	American	Canadian	Total				
1932	902,271	16,026,631	5,960,640	21,987,271	21,146,037	451,761	21,597,798	38,074,939	6,412,401	44,487,340	1932
1933	722,254	14,880,259	7,649,400	22,529,659	22,887,941	637,672	23,525,013	38,490,454	8,286,472	46,776,926	1933
1934	1,541,258	13,360,103	9,004,714	22,364,817	22,829,989	726,658	23,556,648	37,731,350	9,731,372	47,462,722	1934
1935	*1,489,294	13,112,709	8,954,740	22,067,449	22,532,977	1,251,314	23,784,291	37,134,980	10,206,054	47,341,034	1935
1936	708,301	13,865,731	8,696,865	22,562,596	23,717,665	1,887,788	25,605,453	38,291,697	10,584,653	48,876,350	1936
1937	709,752	13,445,575	9,852,348	23,297,923	23,551,917	1,912,966	25,464,883	37,707,244	11,765,314	49,472,558	1937
1938	706,316	13,737,819	9,571,461	23,309,280	22,820,005	2,623,208	25,443,213	37,264,140	12,194,669	49,458,809	1938
1939	1,072,675	13,466,002	10,913,035	24,379,037	22,761,120	2,552,125	25,313,245	37,299,797	13,465,160	50,764,957	1939
1940	779,036	14,395,547	11,101,558	25,497,105	25,396,243	1,582,314	26,978,557	40,570,826	12,683,872	53,254,698	1940
1941	332,259	13,332,247	10,609,166	23,941,413	25,590,281	2,350,333	27,940,614	39,254,787	12,959,499	52,214,286	1941
1942	285,621	14,046,982	9,147,146	23,194,128	24,903,636	2,054,745	26,958,381	39,236,239	11,201,891	50,438,130	1942
1943	419,944	13,740,543	11,116,583	24,857,126	26,569,949	1,790,540	28,360,489	40,730,436	12,907,123	53,637,559	1943
1944	318,689	14,957,704	11,149,714	26,107,418	24,782,581	2,190,459	26,973,040	40,058,974	13,340,173	53,399,147	1944
1945	529,000	13,230,000	11,750,000	24,980,000	25,605,000	3,551,000	29,156,000	39,364,000	15,301,000	54,665,000	1945
1946	605,000	14,068,000	14,451,000	28,519,000	27,067,000	4,058,000	31,125,000	41,740,000	18,509,000	60,249,000	1946
1947	406,000	10,387,000	17,175,000	27,562,000	20,869,000	7,081,000	27,950,000	31,662,000	24,256,000	55,918,000	1947
1948	283,000	13,273,000	14,203,000	27,476,000	23,276,000	4,453,000	27,729,000	36,832,000	18,656,000	55,488,000	1948
1949	426,000	12,461,000	13,588,000	26,049,000	23,433,000	5,158,000	28,591,000	36,320,000	18,746,000	55,066,000	1949
1950	335,000	12,594,000	14,115,000	26,709,000	25,413,000	4,769,000	30,182,000	38,399,000	18,884,000	57,283,000	1950
1951	314,000	14,426,000	16,191,000	30,617,000	20,318,000	4,829,000	25,147,000	35,058,000	21,020,000	56,078,000	1951
1952	391,000	13,355,000	17,133,000	30,488,000	23,868,000	7,586,000	31,454,000	37,614,000	24,719,000	62,333,000	1952
1953	238,000	14,442,000	18,060,000	32,502,000	19,447,000	7,678,000	27,125,000	34,127,000	25,738,000	59,865,000	1953
1954	616,000	19,267,000	17,533,000	36,800,000	23,405,000	9,974,000	33,379,000	43,288,000	27,507,000	70,795,000	1954

†Figures for Area 2 for 1937 and thereafter include halibut which were taken incidentally to cod fishing after the closure of Area 2, as allowed by regulations of the International Fisheries Commission for these years. The approximate amounts are : 278,000 lbs. in 1937; 280,000 lbs. in 1938; 372,943 lbs. in 1939; 304,155 lbs. in 1940; 510,204 lbs. in 1941; 55,895 lbs. in 1942; 856,360 lbs. in 1943; 844,596 lbs. in 1944; 920,000 lbs. in 1945; 1,184,000 lbs. in 1946; 392,997 lbs. in 1947; 898,246 lbs. in 1948; 870,138 lbs. in 1949; 319,745 lbs. in 1950; 885,000 lbs. in 1951, 461,000 lbs in 1952; and 603,000 lbs in 1953. In Area 3, 58,632 lbs in 1949; 94,000 lbs in 1951; 11,000 lbs in 1952; and 13,000 lbs. in 1953.

*This figure includes landings from Areas 1 and 4, as defined in the regulations for 1935. This amount should compare directly with the Area 1 catch of previous years, as it is not believed any fish were landed in 1935 from that portion of Area 4 which included Bering Sea.

NOTE: 1954 figures of the International Pac. Halibut Commission are preliminary and subject to further correction. In data for 1951 and thereafter Area 1 includes the catches from Areas 1A and 1B and Area 2 include the catches from Areas 2A, 2B and 2C. In data for 1952 and thereafter Area 3 includes the catches from Areas 3A, 3B and 4.

the largest annual production in the history of the fishery could be taken without apparent damage to the resource.

It may be asked: How can this be, that a larger catch is taken from a smaller aggregate stock without impairing it; when a smaller catch in the past resulted in depletion?

The answer is: Because the larger catch of 1954 was taken from the entire area of the fishery; whereas in the early years intense fishery gradually expanded onto new grounds, depleting each in turn, the highly concentrated fishery gradually bringing the entire area exploited to a depleted condition by taking the fish off the grounds faster than they grew, and before they had spawned sufficiently to maintain the stock.

Further, it is a biological axiom that the growth potential of a virgin stock is low, below that of a population subject to regular cropping.

The analogy is similar to the rate-of-growth of a virgin forest in contrast to one cropped under a sustained yield program.

True it is that the record-breaking 1954 catch of 70 million pounds of Pacific halibut was attainable only because the commission in that year opened some portions of the treaty waters to fishing for a second season,

1954 - Halibut Arrivals at British Columbia Ports* - 1954

(Pounds)

MONTH	Prince Rupert Butedale†	New Westminster Vancouver, Namu	District No. 3 and Victoria	Total Canadian Vessels	American Vessels at Prince Rupert	GRAND TOTAL
May	5,132,000	1,400,000	1,819,000	8,351,000	241,000	8,592,000
June	5,582,000	2,757,000	810,000	9,149,000	2,578,000	11,727,000
July	1,876,000	1,221,000	185,000	3,282,000	945,000	4,227,000
August	2,598,000	1,213,000	438,000	4,249,000	362,000	4,611,000
September	91,000	95,000	...	186,000	...	186,000
October	10,000	16,000	...	26,000	...	26,000
November	...	10,000	...	10,000	...	10,000
TOTAL	15,289,000	6,712,000	3,252,000	25,253,000	4,126,000	29,379,000
Previous years						
1953	17,894,000	4,979,000	1,774,000	24,647,000	1,989,000	26,636,000
1952	19,275,000	2,662,000	1,653,000	23,590,000	3,006,000	26,596,000
1951	15,717,000	2,819,000	1,923,000	20,459,000	4,381,000	24,840,000
1950	15,237,000	1,689,000	1,888,000	18,814,000	3,684,000	22,498,000
1949	13,745,000	2,129,000	2,189,000	18,063,000	4,205,000	22,268,000
1948	13,665,000	2,641,000	2,172,000	18,478,000	2,479,000	20,957,000
1947	17,868,000	4,298,000	1,819,000	23,985,000	2,585,000	26,570,000
1946	15,117,000	2,023,000	896,000	18,036,000	4,378,000	22,413,000
1945	11,606,000	2,340,000	1,163,000	15,109,000	4,571,000	19,680,000
1944	8,457,460	3,604,517	1,218,985	13,280,962	5,444,672	18,725,634
1943	6,381,348	5,155,435	1,331,575	12,907,123	12,337,126	25,018,553
1942	5,910,928	4,035,866	1,104,459	11,201,891	13,415,795	24,467,048
1941	8,625,079	3,139,021	1,014,192	12,959,499	10,033,720	28,812,612
1940	9,310,667	1,999,314	1,002,401	12,683,872	11,210,740	25,632,122
1939	9,904,289	3,018,504	445,500	13,465,162	9,319,026	22,687,319
1938	8,619,526	2,794,557	586,619	12,194,669	7,324,178	19,343,390
1937	9,026,372	2,333,370	377,796	11,765,314	7,015,057	18,773,489
1936	8,113,365	2,054,167	399,200	10,584,653	6,205,377	16,772,209
1935	7,636,704	2,246,196	349,300	10,206,054	6,927,581	17,159,781
1934	7,946,499	1,513,273	271,600	9,731,372	8,591,983	18,323,355

NOTE: – 1954 figures of the International Pacific Halibut Commission are preliminary and subject to further corrections.

* Does not include landings by Canadian vessels in Alaska of 2,100,000 lbs. in 1954, of 1,041,000 lbs. in 1953, of 1,055,000 lbs. in 1952 or of landings in the State of Washington of 154,000 lbs. in 1954 and of 50,000 lbs. in 1953. † Includes landings from minor British Columbia ports.

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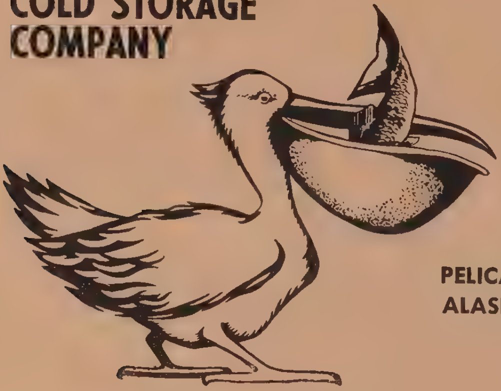

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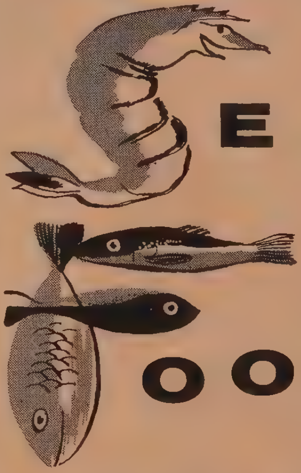

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1954 Halibut Operations—2nd and 3rd Seasons

	AREA 2		AREA 3A		AREA 3B*		ALL AREAS	
	CATCH	No. of Vessels	CATCH	No. of Vessels	CATCH	No. of Vessels	CATCH	No. of† Vessels
Canada	4,046,000	89	243,000	3	125,000	2	4,414,000	92
U.S.	5,481,000	141	3,097,000	76	486,000	12	9,064,000	227
U.S. & Canada	9,527,000	230	3,340,000	79	611,000	14	13,478,000	319

*No catches were made during the first and second season in this area which includes all waters west of Sanak Ids., and in Bering Sea.
† Exclusive of duplication.

and even a third, and that these extra seasons were not subject to quota limitations.

However, the commission felt justified in opening these extra seasons following the regular season because the banks were known to be in excellent condition, and these special areas at least were believed to carry substantial stocks of the late-schooling races which had not been present on the banks during the week of the earlier main season fishery.

1954 Halibut Catch by Seasons and Areas

		SEASON			
		First	Second	Third	Permit
Area 1A*	South of Heceta Head	411,000	...	...	7,000
Area 1B	Heceta Head – Willapa	100,000	58,000	...	39,000
Area 2	Willapa Bay – Cape Spencer	26,497,000	9,527,000	...	776,000
Area 3A	Cape Spencer – Sanak Is.	29,420,000	3,340,000	...	8,000
Area 3B†	West of Sanak Island	...	...	611,000	...

* Area 1A remained open continuously from May 16 to September 19 inclusive.
† Area 3B was the only regulatory area having a third season. No catches were made in the area during the first and second seasons.

● *"SPLIT-SEASON" PLAN* — This arrangement for extra seasons became rangement for extra seasons became available to the commission only as result of the new halibut treaty which became effective in 1952. While it was applied to a limited extent in the 1953 season, it remained for 1954 to provide the commission with the opportunity for the sort of general extension of fishing into later seasons which it had promised the fleet would follow enactment of a treaty permit-

PACIFIC HALIBUT CATCH SINCE 1914

Pounds

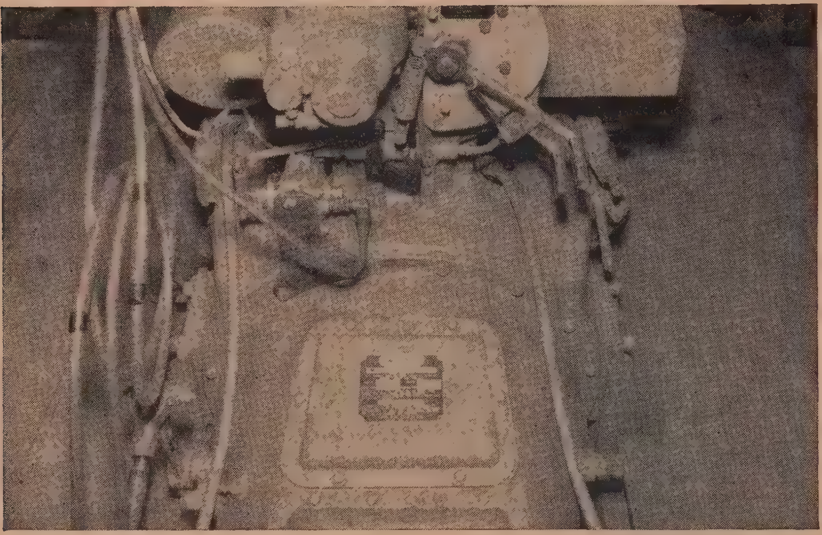
YEAR	AMERICAN VESSELS					CANADIAN VESSELS				GRAND TOTAL	YEAR
	Seattle *	Prince Rupert **	Alaska	Oregon & California ***	Total American	Pr. Rupert, Butedale, Klemtu	Vancouver, New Westm., Vancouver I.	American Ports	Total Canadian		
1914	41,825,575	1,877,000	5,175,993	...	48,878,568	8,742,100	4,991,500	...	13,733,600	62,612,168	1914
1915	33,133,313	11,323,500	5,561,577	...	50,018,390	8,444,715	4,791,000	...	13,235,715	63,254,105	1915
1916	20,259,446	13,810,895	6,961,628	...	41,031,969	6,710,500	5,258,000	...	11,968,500	53,000,469	1916
1917	22,884,434	14,216,030	6,792,138	...	43,892,602	5,839,030	3,686,000	...	9,525,030	53,417,632	1917
1918	16,455,564	10,790,500	6,076,500	...	33,322,564	4,338,000	1,552,000	...	5,890,000	39,212,564	1918
1919	16,968,639	13,000,700	7,366,991	...	37,336,330	6,120,000	1,957,000	...	8,077,000	45,413,330	1919
1920	19,692,915	14,676,400	8,035,000	...	42,404,315	7,190,000	2,010,600	...	9,200,600	51,604,915	1920
1921	17,127,783	19,531,400	8,784,029	...	45,443,212	8,906,000	4,149,400	...	13,055,400	58,498,612	1921
1922	14,602,780	17,248,900	4,772,038	...	36,623,718	8,510,000	3,559,500	...	12,069,500	48,693,218	1922
1923	12,017,312	20,366,600	8,283,590	...	40,667,502	9,392,900	3,707,200	...	13,100,100	53,767,602	1923
1924	11,889,080	20,913,200	12,663,776	...	45,466,056	8,181,500	4,043,500	...	12,225,000	57,691,056	1924
1925	11,197,474	22,434,800	9,752,465	400,000	43,784,739	6,181,600	3,207,600	...	9,389,200	53,169,939	1925
1926	10,156,630	20,483,800	14,011,005	600,000	45,252,435	6,869,200	4,156,500	...	11,025,700	56,278,135	1926
1927	11,917,150	18,664,400	15,386,766	400,000	46,818,316	6,941,000	1,523,400	...	8,464,400	55,282,716	1927
1928	13,788,775	20,389,700	9,623,700	760,000	44,562,175	8,349,500	1,541,500	...	9,891,000	54,453,175	1928
1929	12,359,170	20,599,200	12,882,426	1,103,888	46,890,984	8,045,100	1,747,800	...	9,792,900	56,683,884	1929
1930	12,671,470	16,997,800	11,389,756	930,000	41,989,832	7,006,600	1,475,200	...	8,481,800	50,471,632	1930
1931	15,087,672	10,573,300	9,638,150	953,000	36,252,122	6,202,400	1,424,800	...	7,627,200	43,879,322	1931
1932	22,000,296	10,633,800	4,568,829	1,050,000	38,253,025	4,227,700	2,023,200	...	6,250,900	44,503,925	1932
1933	22,263,992	8,757,300	6,781,451	679,066	38,461,454	5,649,200	2,630,700	...	6,300,255	46,761,709	1933
1934	20,718,328	8,591,983	7,132,059	1,288,980	37,731,350	7,946,499	1,784,873	...	9,731,372	47,462,722	1934
1935	22,388,941	6,927,014	6,538,114	1,280,911	37,134,980	7,636,694	2,563,276	...	10,206,054	47,341,034	1935
1936	22,726,642	6,204,645	8,654,364	706,646	38,291,697	8,111,472	2,468,936	...	10,584,653	48,876,350	1936
1937	21,351,684	7,017,857	8,646,993	690,710	37,707,244	9,032,623	2,711,562	...	11,765,314	49,472,558	1937
1938	20,995,966	7,324,178	8,220,752	704,734	37,264,140	8,617,890	3,384,569	192,210	12,194,669	49,458,809	1938
1939	20,070,259	9,319,026	6,897,208	1,013,304	37,299,797	9,904,372	3,466,362	94,428	13,465,162	50,764,957	1939
1940	18,863,872	11,210,740	9,481,893	1,014,321	40,570,826	9,323,133	3,355,516	5,223	12,683,872	53,254,698	1940
1941	19,095,973	10,036,640	8,998,580	1,123,594	39,254,787	8,708,902	4,173,967	76,630	12,959,499	52,214,286	1941
1942	14,865,306	13,430,294	10,169,162	771,477	39,236,239	5,997,895	5,203,996	65,680	11,201,891	50,438,130	1942
1943	13,278,341	12,309,595	14,096,356	1,046,144	40,730,436	6,281,348	6,487,010	138,765	12,907,123	53,637,559	1943
1944	11,881,680	5,444,672	21,853,111	879,511	40,058,974	8,458,974	4,823,502	59,211	13,340,173	53,399,147	1944
1945	12,651,000	4,571,000	21,049,000	1,093,000	39,364,000	11,606,000	3,503,000	192,000	15,301,000	54,665,000	1945
1946	13,932,000	4,384,000	22,502,000	928,000	41,740,000	15,117,000	2,919,000	473,000	18,509,000	60,249,000	1946
1947	5,816,000	2,585,000	22,422,000	841,000	31,664,000	17,868,000	6,117,000	270,000	24,255,000	55,919,000	1947
1948	9,941,000	2,479,000	23,790,000	621,000	36,831,000	13,665,000	4,813,000	179,000	18,657,000	55,488,000	1948
1949	10,017,000	4,205,000	21,473,000	625,000	36,320,000	13,745,000	4,318,000	683,000	18,746,000	55,066,000	1949
1950	8,663,000	3.683,000	25,265,000	788,000	38,399,000	15,237,000	3,577,000	70,000	18,884,000	57,283,000	1950
1951	11,100,000	4,389,000	19,034,000	535,000	35,058,000	15,717,000	4,742,000	561,000	21,020,000	56,078,000	1951
1952	13,152,000	3,037,000	20,862,000	563,000	37,614,000	19,275,000	4,315,000	1,129,000	24,719,000	62,333,000	1952
1953	14,598,000	2,020,000	17,033,000	476,000	34,127,000	18,351,000	6,296,000	1,019,000	25,738,000	59,865,000	1953
1954	17,362,000	4,205,000	20,755,000	966,000	43,288,000	15,289,000	9,965,000	2,253,000	27,507,000	70,795,000	1954

NOTE: – 1954 figures of the International Pacific Halibut Commission are preliminary and subject to further correction.

* Includes the very small amount of fish landed at Neah Bay and elsewhere on Puget Sound.

** Includes the fish occasionally landed by American vessels at Butedale, Vancouver and elsewhere in Canada.

*** Landings in Oregon and California not segregated prior to 1925.



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ting it to have more than one open season for any one ground.

The theory behind the staggered seasons briefly is this:

For years the halibut commission's research staff has been convinced that some of the halibut banks are occupied at different times of the year by different stocks of fish. Their studies indicated that later in the summer the banks were occupied by stocks which had been subject to virtually no fishery for years as result of the slight change which had occurred in the timing of the principal season from year to year. It was felt that stocks on the grounds during this principal season perhaps were being overfished, while those which were available on the grounds later were being underfished, or not fished at all.

Under the terms of the treaty applicable prior to late 1952, as interpreted by the United States attorney general, the commission could not permit more than one open season for fishing on any one ground in one year.

- 13 *MILLION POUNDS*—The *additional* catch, over and above that taken during the regular season, plus "permit" fish, taken during the four extra seasons of 1954 totalled 13,478,000 lbs. This represented the value to the fleet of the "split seasons" made available as result of the new treaty.

While extra poundage had been promised, and generally is recognized as well justified, if it is taken from late-appearing stocks, it must be recognized that some very well qualified analysts feel that the 1954 catch during these later periods may have been somewhat excessive, and that its effect upon the population may prove to be adverse.

The yield was so great, and came off the grounds so rapidly under the fishing effort of 319 vessels, that the total landings piled-up in amazing fashion.

It is interesting that the American fleet took a substantially larger percentage of the extra-season catch than it did of the fish landed from regular season operations.

For example, of the extra-season halibut, 67% were taken by American vessels. Of the year's entire production, however, the American fleet took 61.1%—which of course includes the extra seasons' yield.

With this extra-season dominance, and probably largely because of it, the American fleet increased its overall percentage of the halibut catch over the catch division ratio which

1954 -HALIBUT ARRIVALS AT ALASKA PORTS*- 1954

(Data in Pounds)

MONTH	Ketchikan	Wrangell	Petersburg	Sitka	Juneau	Pelican	Misc. S. E. Alaska	Central† Alaska	TOTAL
May	1,119,000	133,000	1,287,000	750,000	627,000	954,000	168,000	568,000	5,606,000
June	3,355,000	125,000	1,732,000	1,106,000	1,666,000	1,782,000	124,000	2,099,000	11,989,000
July	682,000	...	381,000	193,000	271,000	234,000	...	346,000	2,107,000
August	456,000	110,000	580,000	324,000	746,000	66,000	277,000	309,000	2,868,000
September	15,000	...	84,000	10,000	36,000	3,000	...	86,000	234,000
October	3,000	...	24,000	2,000	13,000	4,000	...	...	46,000
November	1,000	...	...	1,000	3,000	...	...	...	5,000
Total 1954	5,631,000	368,000	4,088,000	2,386,000	3,362,000	3,043,000	569,000	3,408,000	22,855,000*
Previous Years									
1953	4,823,000	368,000	2,847,000	1,662,000	1,706,000	2,829,000	214,000	3,625,000	18,074,000*
1952	7,696,000	430,000	3,022,000	2,023,000	2,645,000	2,244,000	139,000	2,661,000	20,860,000
1951	5,170,000	496,000	2,869,000	1,985,000	2,386,000	2,294,000	192,000	3,642,000	19,034,000
1950	6,992,000	479,000	3,140,000	3,103,000	3,823,000	3,351,000	75,000	4,372,000	25,265,000
1949	7,628,000	499,000	2,675,000	2,008,000	2,473,000	2,102,000	41,000	4,689,000	22,115,000
1948	7,700,000	716,000	2,548,000	2,990,000	2,797,000	2,362,000	114,000	4,742,000	23,969,000
1947	7,503,000	643,000	2,828,000	2,634,000	5,432,000**	...	...	3,389,000	22,429,000
1946	9,918,000	699,000	2,943,000	2,684,000	4,363,000**	...	...	2,279,000	22,886,000
1945	2,277,000	585,000	2,161,000	2,773,000	4,363,000**	...	...	2,221,000	20,887,000
1944	9,554,962	1,008,312	2,486,084	2,694,073	3,540,637	...	...	2,569,043	21,853,111
1943	7,450,730	727,157	1,936,825	1,691,697	2,289,947	...	...	...	14,096,356
1942	5,749,469	469,037	1,559,221	834,046	1,816,148	...	...	...	10,169,162
1941	3,367,567	375,135	1,463,801	2,173,697	1,616,928	...	...	...	8,998,580
1940	3,798,134	400,735	1,718,490	1,370,412	1,984,511	...	...	...	9,481,893
1939	2,263,927	279,660	1,460,190	931,557	2,001,999	...	...	...	6,897,208
1938	2,828,111	414,928	1,965,843	906,852	2,039,814	...	...	...	8,220,752
1937	3,642,996	590,834	1,352,807	893,602	1,832,533	...	...	...	8,646,993
1936	3,556,364	494,221	1,979,813	945,933	1,541,674	...	...	...	8,654,364
1935	3,752,488	112,060	474,672	667,811	1,341,864	...	...	...	6,538,114
1934	3,155,474	284,950	1,002,792	1,172,264	1,463,761	...	...	...	7,132,059

† Port Williams, Cordova, Valdez, Seldovia, Anchorage, Sand Point.

* Landings by Canadian vessels in Alaska included which were 2, 100, 000 in 1954, 1, 041, 000 in 1953 and 1, 055, 00 in 1952.

NOTE:– 1954 figures of the Internation Pacific Halibut Commission are preliminary and subject to further correction.

POST-SEASON HALIBUT LANDINGS

Year	Area 2 Pounds	Area 3 Pounds
1937	278,000	...
1938	280,000	...
1939	372,943	...
1940	304,155	...
1941	510,204	...
1942	55,895	...
1943	856,360	...
1944	844,596	...
1945	920,000	...
1946	1,184,000	...
1947	392,997	...
1948	898,246	...
1949	870,138	58,632
1950	319,745	...
1951	885,000	94,000
1952	461,000	11,000
1953	603,000	13,000
1954	776,000	8,000

NOTE: – Under regulations of the International Pacific Halibut Commission, boats operating under permit from the commission and engaged in bona fide fishing operations with long-gear for species other than halibut may land halibut taken incidentally to such operations to the amount of 1 pound of halibut to each 7 pounds of other species so taken and landed. Such operations may be conducted after the close of one halibut area while another remains open, or until November 15.

has prevailed during the two previous seasons.

- *NEW RECORD SET*—The 1954 catch of 70,795,000 lbs. of halibut ran more than 2 million pounds above the previous record, 68,750,000 lbs., set in 1915 at the time when the fleet was expanding rapidly and the Canadian National Railroad into Prince Rupert was opened, giving a northern rail terminus for express shipments east.

Low year in the halibut fishery's history was 1931, when the catch was approximately 44,000,000 lbs., and when to attain this total the fleet *fished for nine months,* in contrast to the 1954 season of 58 days—not counting the extra post-season fishing periods or the minor "permit" deliveries.

- *ALASKA LANDINGS HOLD*—Where the Alaska cold storage operators generally had feared that the "split seasons" would have adverse effect upon the landings in the Territory, experience in 1954 was to the contrary, the year's Alaska deliveries being 3.7 million pounds over 1953. They were approximately the same as in 1952 and better than those of 1951, although below those of 1950 and preceding years back through 1944.

OREGON AND CALIFORNIA HALIBUT LANDINGS — 1954

Month	California Pounds	Oregon Pounds
May	78,000	243,000
June	51,000	230,000
July	8,000	39,000
August	5,000	291,000
September	4,000	10,000
October	2,000	1,000
November	3,000	1,000
TOTAL	151,000	815,000

NOTE: 1954 figures of the International Pacific Halibut Commission are preliminary and subject to further correction, particularly California' s which include some estimation.

SIZE OF HALIBUT FLEET

(INCLUDES REGULAR HALIBUT BOATS ONLY)

	UNITED STATES FLEET				CANADIAN FLEET				COMBINED FLEETS			
	Area 2	Area 2	Area 3	Area 3	Area 2	Area 2	Area 3	Area 3	Area 2	Area 2	Area 3	Area 3
YEAR	#of Boats	#of Men	#of Boats	#of Men	#of Boats	#of Men	#of Boats	#of Men	#of Boats	#of Men	#of Boats	#of Men
1943	247	1,037	107	942	162	767	3	24	409	1,804	110	966
1944	278	1,056	84	753	278	831	4	34	485	1,887	88	767
1945	316	1,253	97	837	175	867	3	26	491	2,120	100	863
1946	373	1,373	116	921	187	952	5	41	560	2,325	121	962
1947	350	1,302	119	887	215	1,168	5	40	565	2,470	124	927
1948	403	1,496	139	1,095	249	1,221	5	39	652	2,717	144	1,134
1949	374	1,452	149	1,134	225	1,153	5	41	599	2,605	154	1,175
1950	426	1,654	150	1,147	235	1,210	5	39	661	2,864	155	1,186
1951	394	1,574	148	1,091	270	1,346	8	66	664	2,920	156	1,156
1952	295	1,243	134	885	233	1,211	8	64	528	2,454	142	949
1953	273	1,147	139	883	229	1,151	20	159	502	2,298	159	1,042
1954	289	1,238	121	720	224	1,149	20	167	513	2,387	141	887

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- Halibut regulations for 1955 follow the pattern of the previous year closely. Fishing starts May 12 and continues until quotas are filled. These limits are the same as in 1954, with 26.5 million pounds for Area 2 and 28 million for Area 3.

Subsequent no-quota seasons will open July 27, for 8 days in Area 2 and 1B, and for 10 days in Area 3A and 3B.

Area 3B will re-open again on Aug. 11 for a period of 23 days.

These seasons are the same as in 1954, when the special seasons yielded an extra catch of 13.5 million pounds.

One specific change in 1955 regulations is a shift of the line between Areas 3A and 3B eastward from Sanak Island to the Shumagin Islands.

Holdings of Frozen Halibut in Canada by Months

Year	(Pounds)												Year
	Jan.	Feb.	March	April	May	June	July	August	September	October	November	December	
1943	5,033,262	4,320,016	3,662,970	2,023,376	1,678,527	3,113,646	4,822,529	4,874,661	4,971,853,	3,715,845	4,136,536	3,494,191	1943
1944	2,503,628	2,039,395	1,507,225	1,097,699	792,549	728,024	3,905,781	6,675,093	6,368,948	6,354,092	5,392,449	4,861,059	1944
1945	4,222,080	2,970,513	2,605,945	1,596,132	1,193,618	4,430,285	7,065,500	6,462,794	6,146,324	5,305,732	4,538,808	2,874,540	1945
1946	2,348,945	1,472,192	1,188,634	717,256	237,978	5,499,251	9,561,055	9,260,311	9,366,369	8,076,480	7,067,600	6,298,440	1946
1947	5,479,805	4,176,190	3,592,122	2,680,602	1,282,144	7,140,603	10,209,201	11,994,470	13,411,286	11,517,561	9,836,666	9,080,400	1947
1948	8,296,000	6,613,000	5,254,000	3,348,000	2,312,000	9,108,000	10,717,000	11,216,000	9,362,000	8,610,000	7,418,000	5,687,000	1948
1949	4,749,000	3,949,000	2,867,000	1,017,000	445,000	7,972,000	9,959,000	11,957,000	10,792,000	9,523,000	8,463,000	6,781,000	1949
1950	5,346,000	3,250,000	2,162,000	1,116,000	689,000	7,329,000	10,755,000	11,273,000	10,428,000	8,475,000	8,429,000	7,020,000	1950
1951	6,450,000	5,398,000	4,349,000	2,725,000	2,433,000	13,198,000	14,452,000	13,550,000	13,445,000	12,883,000	10,791,000	9,212,000	1951
1952	7,433,000	5,098,000	3,747,000	2,367,000	1,449,000	7,662,000	12,129,000	13,420,000	12,544,000	12,569,000	10,439,000	8,077,000	1952
1953	7,812,000	5,451,000	3,812,000	2,464,000	1,511,000	7,504,000	16,583,000	15,434,000	17,065,000	14,758,000	12,394,000	11,443,000	1953
1954	10,082,000	7,696,000	5,881,000	3,604,000	1,728,000	6,913,000	11,351,000	12,935,000	14,772,000	13,619,000	12,279,000	†	1954

NOTE: – All figures in accordance with latest reports. Source: Dominion Bureau of Statistics – Ottawa, Canada. † Data not available.

North Pacific Halibut Seasons

YEAR	AREA 2			AREA 3			YEAR
	Opened	Closed	Fishing Days	Opened	Closed	Fishing Days	
1933	Feb. 1	Aug. 25	206	Feb. 1	Oct. 26	268	1933
1934	Mar. 1	Aug. 19	172	Mar. 1	Oct. 27	241	1934
1935*	Mar. 1	Sept. 6	159*	Mar. 1	Dec. 26	270*	1935
1936	Mar. 16	Aug. 10	148	Mar. 16	Nov. 3	233	1936
1937	Mar. 16	July 28	135	Mar. 16	Oct. 19	218	1937
1938	Apr. 1	July 29	120	Apr. 1	Oct. 29	212	1938
1939	Apr. 1	July 29	120	Apr. 1	Oct. 28	211	1939
1940	Apr. 1	July 13	104	Apr. 1	Sept. 26	179	1940
1941	Apr. 1	June 30	91	Apr. 1	Sept. 14	167	1941
1942	Apr. 16	June 29	75	Apr. 16	Sept. 25	163	1942
1943	Apr. 16	June 20	66	Apr. 16	Sept. 8	146	1943
1944**	Apr. 16	July 9	51**	Apr. 16	Nov. 30	194**	1944
1945	May 1	June 15	46	May 1	Sept. 24	147	1945
1946	May 1	June 11	42	May 1	Aug. 19	111	1946
1947***	May 1	June 8	39***	May 1	Aug. 17	109***	1947
1948	May 1	June 1	32	May 1	July 11	72	1948
1949	May 1	June 3	34	May 1	July 12	73	1949
1950	May 1	June 1	32	May 1	July 5	66	1950
1951	May 1	May 28	28 †	May 1	June 25	56	1951
1952	May 14	June 8	26†	May 14	July 12	58†	1952
1953	May 17	June 9	24†	May 17	July 7	52†	1953
1954	May 16	June 5	21†	May 16	July 12	58†	1954

NOTE: — All dates given are for the legal season. Fishing times given are actual periods of fishing, with allowance made in certain years for delays in fishing due to strikes and disputes. Closure generally at midnight of dates given.

* Fleet tied-up voluntarily until April 1.

** Fleet tied-up until May 20 in protest against OPA ceiling prices.

*** Seattle fleet largely tied-up until July 1, due to crew share dispute.

† Does not include special post-season open fishing periods in sub-areas.

PERCENTAGE DIVISIONS OF CATCH BETWEEN FLEETS

Year	CANADIAN			AMERICAN			Year
	Area 2	Area 3	All Areas	Area 2	Area 3	All Areas	
1954	47.6	29.9	38.9	52.4	70.1	61.1	1954
1953	55.8	28.0	42.9	44.2	72.0	57.1	1953
1952	56.1	24.2	39.6	43.9	75.8	60.4	1952
1951	53.9	19.6	38.0	46.1	80.4	62.0	1951
1950	52.7	15.6	32.8	47.3	84.4	67.2	1950
1949	51.4	17.9	33.7	48.6	82.1	66.3	1949
1948	51.7	18.0	33.6	48.3	82.0	66.4	1948
1947	62.3	25.3	43.7	37.7	74.6	56.3	1947
1946	50.7	13.0	30.7	49.3	87.0	69.3	1946
1945	47.0	12.2	28.0	53.0	87.8	72.0	1945
1944	42.7	8.2	25.0	57.3	91.8	75.0	1944
1943	44.5	5.8	24.1	55.5	94.2	75.9	1943
1942	39.0	7.7	22.2	61.0	92.3	77.8	1942
1941	44.2	8.4	24.7	55.8	91.6	75.3	1941
1940	43.5	5.9	23.8	56.5	94.1	76.2	1940
1939	44.8	10.0	26.5	55.2	90.0	73.5	1939
1938	41.3	10.4	24.7	58.7	89.6	75.3	1938
1937	42.6	7.5	23.8	57.4	92.5	76.2	1937
1936	38.8	7.0	21.7	61.2	93.0	78.3	1936
1935	40.8	5.3	21.3	59.2	94.7	78.7	1935
1934	40.2	3.0	20.5	59.8	97.0	79.5	1934
1933	33.9	2.7	17.7	66.1	97.3	82.3	1933
1932	27.1	2.0	14.4	72.9	98.0	85.6	1932

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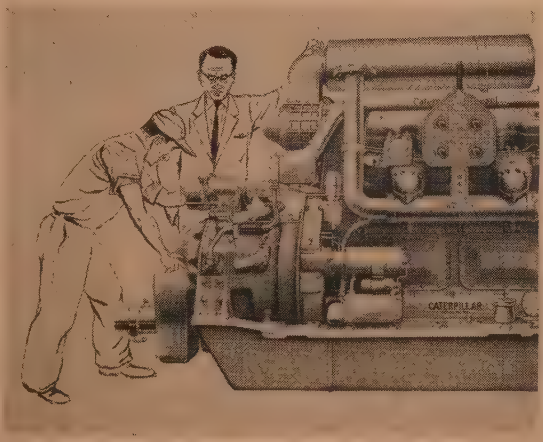

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FROZEN

With halibut hitting an all-time high, Pacific fish freezing in 1954 passed the 100,000,000-pound mark handily, and thus reaching the highest level in four years.

Reduced freezing in the miscellaneous category, plus emphasis on fillets, held gross volume well under the wartime peaks.

With 51.4% of the record halibut catch frozen, the 50 million pounds of this fish which went into freezer in 1954 accounted for almost exactly half of the entire Pacific Coast production of frozen fish.

This exceeded the frozen halibut pack of any previous year by about 2.5 million pounds.

Alaska ran first in halibut freezing, although the 20.9 million-pound pack there was more than 5 million short of the Territory's peak freeze in 1948.

Shortage of ocean-caught salmon, notably Kings, during 1954 held the salmon freeze below 28 million pounds for the first time in a number of years. Alaska managed to get-up more salmon than the year before, but British Columbia and Puget Sound sharp rooms were far under normal in their product volume.

Fillets, again aggregating more than 11 million pounds, were close to the level of 1953, but materially short of the pack in 1952 and the wartime years, when military orders were particularly important.

1954-PACIFIC FROZEN SHELLFISH-1954

Company	Location	(Pounds) Dungeness Crabmeat	King Crabmeat	Shrimpmeat	Clams Shucked	Oysters Shucked	Total Shellfish
ALASKA							
Alaska Fresh Co.	Kodiak	...	11,102	...	...	...	11,102
Aleutian Cold Storage Co.	Sand Point	...	286,739	...	...	...	286,739
Aurora Packing Co.	Cordova	3,000	...	...	...	...	3,000
Coastal Glacier Seafoods	Hoonah	22,597	...	...	...	...	22,597
Copper Delta Seafoods Co.	Cordova	28,476	...	...	...	...	28,476
Cordova Fish & Cold Storage	Cordova	193,235	...	...	...	...	193,235
Juneau Cold Storage Co.	Juneau	...	...	35,886	...	...	35,886
Kayler-Dahl Fish Co.	Petersburg	35,000	...	170,000	...	...	205,000
Ketchikan Cold Storage Co.	Ketchikan	82,275	...	...	...	...	82,275
King Crab, Inc.	Kodiak	...	29,944	...	...	...	29,944
Pacific Pearl Frozen Foods	Hydaburg	5,827	...	11,368	...	...	17,195
Seldovia Bay Packing Co.	Seldovia	...	137,790	...	...	...	137,790
J. E. Shields Co.	Bering Sea	...	20,000	...	...	...	20,000
Wakefield's Deep Sea Trawlers	Bering Sea	...	530,000	...	...	...	530,000
BRITISH COLUMBIA							
British Columbia Packers	B. C. Points	14,750	...	29,716	11,330	43,194	98,990
Canadian Fishing Co.	B. C. Points	3,940	...	10,733	...	...	14,673
Fishermen's Cooperative Federation	Prince Rupert	1,000	...	2,000	...	...	3,000
Fishermen's Cooperative Federation	Vancouver	1,500	...	6,000	...	13,500	21,000
Queen Charlotte Canners	Massett	32,350(a)	...	...	...	...	32,350
WASHINGTON							
Booth Fisheries Corp.	Seattle	...	...	...	...	75,000	75,000
Chase Fish Co.	Seattle	1,230	...	...	...	1,136	2,366
Chase Seafood Co.	Everett	1,800	...	...	...	...	1,800
Koakinen Fish Co.	Westport	9,025	...	...	...	...	9,025
Northern Oyster Co.	Oysterville	...	...	...	...	2,400	2,400
Olympia Oyster Co.	Olympia	...	...	...	...	7,960	7,960
San Juan Fishing & Packing Co.	Seattle	...	...	...	...	10,000	10,000
Whiz Fish Products Co.	Seattle	30,000	...	...	...	...	30,000
OREGON							
Bell Buoy Crab Co.	Seaside	4,000	...	...	1,400	...	5,400
Hallmark Fisheries	Charleston	60,000	...	...	...	...	60,000
San Jaun Fishing & Packing Co.	Warrenton	98,000	...	...	...	...	98,000
New England Fish Co.	Astoria	51,000	...	...	...	...	51,000
CALIFORNIA							
Tom Lazio Fish Co.	Eureka	83,442	...	43,990	...	...	127,432
GRAND TOTAL		762,447	1,015,575	309,693	12,730	153,190	2,253,635

(a) – Also froze 200,178 lbs. of whole crabin shell.

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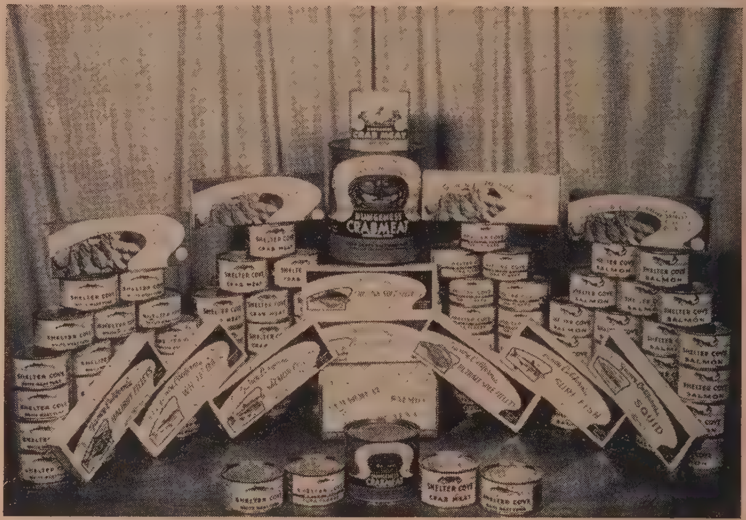

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1954 -PACIFIC FROZEN FISH-1954

COMPANY	Location	(Pounds)					
		Halibut	Salmon	Sablefish	Fillets	Miscellaneous	TOTAL
Alaska Fish & Farm Products	Anchorage	28,000	64,000	...	...	...	92,000
Aleutian Cold Storage Company	Sand Point	1,041,720	36,154	...	...	3,079	1,080,953
Booth Fisheries Corporation	S. E. Alaska	875,000	600,000	12,000	...	...	1,487,000
Cordova Fish & Cold Storage Co.	Cordova	725,188	8,744	5,512	...	...	739,444
Juneau Cold Storage Company	Juneau	1,496,345	403,269	224,018	...	...	2,123,632
Kayler-Dahl Fish Co.	Petersburg	1,450,000	480,000	900,000	...	200,000	3,030,000
Ketchikan Cold Storage	Ketchikan	765,952	...	...	...	...	765,952
McCallum-Legaz Fish Company	Sitka	500,000	100,000	...	...	...	600,000
New England Fish Company	S. E. Alaska	3,400,000	809,000	120,000	...	...	4,329,000
Oxenberg Bros.	Ketchikan	7,048	42,263	...	...	...	49,311
	Juneau	13,104	150,912	118,441	...	...	282,457
	Pelican	2,622	77,165	...	...	...	79,787
Pelican Cold Storage Company	Pelican	1,390,665	857,776	52,776	...	...	2,301,367
Petersburg Cold Storage Company	Petersburg	708,247	10,717	216,862	57,468	...	993,294
E. C. Phillips	Ketchikan	1,202,214	222,599	27,000	...	...	1,451,813
San Juan Fishing & Packing Co.	Ketchikan	287,786	29,401	...	...	...	317,187
	Juneau	686,129	67,280	...	...	...	753,409
	Pelican	74,288	44,461	1,329	...	...	120,078
	Petersburg	942,100	55,121	31,394	...	...	1,028,615
Sebastian-Stuart Fish Co.	Juneau	228,883	483,590	56,740	...	...	769,213
	Pelican	478,554	132,907	2,563	...	...	614,024
Seldovia Bay Packing Company	Seldovia	418,403	...	...	...	...	418,403
Sitka Cold Storage Company	Sitka	1,855,877	1,131,311	173,000	...	...	3,160,188
Vita Food Products Company	Ketchikan	...	218,210	...	...	...	218,210
	Hydaburg	21,768	18,201	...	...	...	39,969
	Juneau	...	376,136	151,082	...	...	527,218
	Pelican	48,590	541,590	47,000	...	...	637,180
	Petersburg	...	203,113	696,167	...	...	899,280
	Wrangell	...	92,815	...	...	...	92,815
	Sitka	163,005	317,787	...	...	...	480,792
Washington Fish & Oyster Co.	Port Williams	1,250,000	25,000	8,000	...	...	1,283,000
Whiz Fish Products Company	Ketchikan	134,000	357,000	109,000	...	...	600,000
	Juneau	175,000	248,000	86,000	...	...	509,000
	Pelican	242,000	630,000	...	...	...	872,000
Wrangell Cold Storage Company	Wrangell	374,875	506,946	33,124	...	627	915,572
Total Alaska		20,987,363	9,341,468	3,072,158	57,468	203,706	33,662,163
BRITISH COLUMBIA							
Booth Fisheries Corporation	Prince Rupert	978,000	200,000	...	...	...	1,178,000
British Columbia Packers, Ltd.	All Points	4,446,912	5,206,714	294,429	3,191,996	338,742	13,478,793
Canadian Fishing Co.	Vancouver	2,288,996	3,050,080	3,617	236,309	296,836	5,875,838
	Prince Rupert	2,008,843	1,379,332	58,512	534,172	...	3,980,859
	Butedale	1,053,507	101,649	232,019	...	14,085	1,401,260
Fishermen's Cooperative Federation	Prince Rupert	4,000,000	2,000,000	250,000	725,000	100,000	7,075,000
San Juan Fishing & Packing Co.	Prince Rupert	952,286	334,016	...	...	...	1,286,302
	Vancouver	539,797	82,992	...	...	...	622,789
Total British Columbia		16,268,341	12,354,783	838,577	4,687,477	749,663	34,898,841
PUGET SOUND							
Booth Fisheries Corporation	Seattle	1,400,000	700,000	240,000	350,000	25,000	2,715,000
Chase Fish Company	Seattle	108,300	18,750	695	1,450	16,600	145,795
Chase Seafood Company	Everett	...	...	...	26,000	...	26,000
	Seattle	60,000	89,000	116,000	34,000	...	299,000
Eardley Fisheries Company	Seattle	650,000	155,000	212,000	1,879,000	...	2,896,000
McCallum-Legaz Fish Company	Seattle	750,000	100,000	80,000	30,000	20,000	980,000
New England Fish Company	Puget Sound	1,200,000	600,000	10,000	50,000	146,000	2,006,000
San Juan Fishing & Packing Company	Seattle	2,132,712	842,951	581,071	156,759	14,691	3,728,184
Seattle Sea Foods Company	Seattle	1,500,000	200,000	...	...	...	1,700,000
Sebastian-Stuart Fish Company	Seattle	529,505	13,445	...	7,730	8,244	558,924
Washington Fish & Oyster Company	Seattle	1,447,570	963,175	258,360	16,145	55,010	2,740,260
Whiz Fish Products Company	Seattle	850,000	450,000	250	...	...	1,300,250
Miscellaneous	Puget Sound	1,573,813	608,316	...	100,000	175,000	2,457,129
Total Puget Sound		12,201,900	4,740,637	1,498,376	2,651,084	460,545	21,552,542
COLUMBIA RIVER AND OREGON							
Columbia River Packers Assoc.	Astoria	713,461	600,963	74,456	622,109	39,124	2,050,113
Charles Feller	Coos Bay	...	3,000	...	...	25,000	28,000
New England Fish Company	Columbia River	50,000	145,000	80,000	1,050,000	146,000	1,471,000
Union Fishermen's Co-op Pkg. Co.	Astoria	100,891	40,000	...	...	...	140,891
Total Columbia River and Oregon		864,352	788,963	154,456	1,672,109	210,124	3,690,004
CALIFORNIA							
Eureka Cold Storage Company	Eureka	6,252	129,368	105,680	853,956	...	1,095,256
Grader Fish Company	Fort Bragg	...	49,585	...	...	...	49,585
Miscellaneous	California	112,040	530,220	128,639	1,338,278	3,926,655	6,035,832
Total California		118,292	709,173	234,319	2,192,234	3,926,655	7,180,673
GRAND TOTALS		50,440,248	27,935,024	5,797,886	11,260,372	5,550,693	100,984,223

Whether the leveling-off of fillets can be laid to the rise of fish stick business is not altogether clear. *Pacific Fisherman Yearbook* believes that producer reports to it would include blocks frozen for stick-cutting among fillets, rather than under the "Miscellaneous" category.

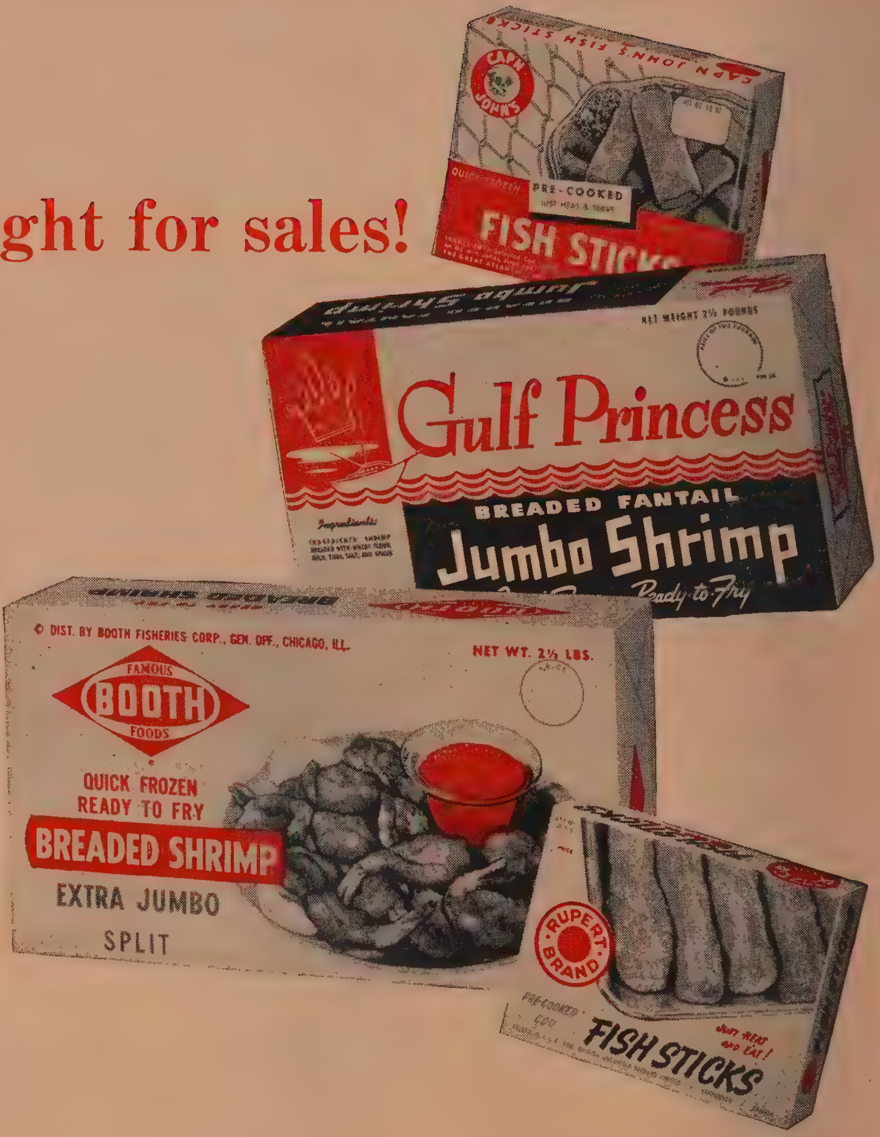
If so, this would lead to comparable volume in fillets with years prior to the boom in sticks.

There is also some reason to believe that the decline of "Miscellaneous" freezing in the past three years may be traceable in some degree to the diversion of the fish from this group into fillets frozen in blocks for subsequent sawing into sticks.

● *KING CRAB IS KING*—In the field of frozen shellfish, King crab in 1954 took top place with more than 1,000,000 lbs.

Frozen Pacific crabmeat also was

Packaged right for sales!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FISH STICKS
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Jumbo Shrimp
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EXTRA JUMBO
SPLIT
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PACIFIC FROZEN FISH

DISTRICT & YEAR	Halibut Pounds	Salmon Pounds	Fillets Pounds	Sablefish Pounds	Miscellaneous Pounds	TOTALS & Years	DISTRICT & YEAR
1946						1946	1946
Alaska	14,966,616	12,036,956	30,000	4,519,989	2,075,530	33,629,091	Alaska
British Columbia	12,782,294	14,384,544	1,972,000	1,778,855	11,486,110	42,403,803	British Columbia
Puget Sound & Wash. Coast	8,050,947	6,388,388	3,895,400	1,714,185	2,807,240	22,856,160	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	555,884	4,373,849	4,511,986	416,003	3,147,126	13,004,848	Columbia Riv.& Ore. Coast
California	585,807	852,370	252,064	182,810	3,394,719	5,267,770	California
TOTAL, 1946	36,941,548	38,036,107	10,661,450	8,611,842	22,910,725	117,161,672	TOTAL, 1946
1947						1947	1947
Alaska	20,638,301	10,197,755	4,597	886,535	383,473	32,110,661	Alaska
British Columbia	14,930,795	13,583,850	1,057,828	729,492	6,357,106	36,659,071	British Columbia
Puget Sound & Wash. Coast	4,933,377	4,241,310	1,658,152	921,204	1,004,330	12,758,373	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	618,266	1,272,508	1,681,488	60,786	985,697	4,618,745	Columbia Riv.& Ore. Coast
California	1,173,863	632,681	52,876	35,895	3,930,147	5,825,462	California
TOTAL, 1947	42,294,602	29,928,104	4,454,941	2,633,912	12,660,753	91,972,312	TOTAL, 1947
1948						1948	1948
Alaska	26,020,134	9,582,232	165,370	5,065,056	5,290	40,838,082	Alaska
British Columbia	11,512,287	15,209,533	1,650,856	1,651,028	4,210,412	34,234,116	British Columbia
Puget Sound & Wash. Coast	7,152,574	4,355,399	2,393,487	1,519,514	797,882	16,218,856	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	410,091	1,187,802	4,241,705	329,857	. . . .	6,169,455	Columbia Riv.& Ore. Coast
California	3,365	41,200	168,167	4,834	1,728,963	1,946,429	California
TOTAL, 1948	45,098,451	30,376,166	8,619,585	8,570,289	6,742,547	99,407,038	TOTAL, 1948
1949						1949	1949
Alaska	20,914,221	12,222,337	1,309	3,772,851	271,901	37,182,619	Alaska
British Columbia	12,629,300	19,584,100	3,480,500	1,967,500	6,946,700	44,608,100	British Columbia
Puget Sound & Wash. Coast	7,535,497	5,123,763	1,192,440	1,846,314	1,088,490	16,786,504	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	324,527	458,280	2,567,863	289,205	121,994	3,761,869	Columbia Riv.& Ore. Coast
California	5,912	124,301	790,780	6,547	3,083,428	4,010,968	California
TOTAL, 1949	41,409,457	37,512,781	8,032,892	7,882,417	11,512,513	106,350,060	TOTAL, 1949
1950						1950	1950
Alaska	25,625,940	8,467,426	5,113	566,965	98,409	34,763,853	Alaska
British Columbia	15,081,000	23,425,000	701,789	271,848	5,393,954	44,873,591	British Columbia
Puget Sound & Wash. Coast	6,270,705	4,706,925	1,166,019	1,547,807	5,226,430	18,917,886	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	417,651	483,068	3,383,682	63,081	333,117	4,679,599	Columbia Riv.& Ore. Coast
California	60,000	147,753	1,897,253	57,125	2,646,797	4,754,928	California
TOTAL, 1950	47,401,296	37,230,172	7,152,856	2,506,826	13,698,707	107,989,857	TOTAL, 1950
1951						1951	1951
Alaska	19,577,948	8,780,110	6,988	3,241,556	820,473	32,427,075	Alaska
British Columbia	13,358,332	16,000,909	2,292,931	1,050,718	7,492,483	40,195,373	British Columbia
Puget Sound & Wash. Coast	7,789,536	4,314,516	2,119,910	1,791,000	2,275,577	18,290,539	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	291,936	735,305	3,199,153	189,694	124,761	4,540,849	Columbia Riv.& Ore. Coast
California	14,690	172,706	253,169	8,445	2,503,039	2,952,049	California
TOTAL, 1951	41,032,442	30,003,546	7,872,151	6,281,413	13,216,333	98,405,885	TOTAL, 1951
1954							1954
Alaska	20,987,363	9,341,468	57,468	3,072,158	203,706	33,662,163	Alaska
British Columbia	16,268,341	12,354,783	4,687,477	838,571	749,663	34,898,841	British Columbia
Puget Sound & Wash. Coast	12,201,900	4,740,637	2,651,084	1,498,376	460,545	21,552,542	Puget Sound & Wash. Coast
Columbia River & Ore. Coast	864,352	788,963	1,672,109	154,456	210,124	3,690,004	Columbia River &Ore.Coast
California	118,292	709,173	2,192,234	234,319	3,926,655	7,180,673	California
TOTAL, 1954	50,440,248	27,935,024	11,260,372	5,797,886	5,550,693	100,984,223	TOTAL, 1954

NOTE: – Since 1942 Steelheads have been combined with salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported. British Columbia figures include only amounts directly reported by owners of the fish and do not include unreported quantities in custom freezers.

produced in volume far above usual, but frozen clams and oysters registered decline.

High level of King crab freezing reflects the sharply advanced rate of production resulting from the entry of new factors in the field, and runs parallel with a large gain in the domestic pack of this Alaskan specialty.

Pacific crab freezing suffered in the Hecate Strait and Southeast Alaska areas as result of a sharp downward pitch in landings, which fell from record volume in 1953 to disappointing levels.

Crab production in Oregon and Washington, on the other hand, was much better than in several years, yielding a pack of both canned and frozen crab on which prices proved discouragingly low.

1954 - ALASKA CUSTOM COLD STORAGE FREEZINGS - 1954

Company	(Pounds)						
	Location	Halibut	Salmon	Sablefish	Fillets	Miscellaneous	Grand Total
Alaska Fish & Farm Products	Anchorage	28,000	64,000	...	...	...	92,000
Aleutian Cold Storage Co. 9	Sand Point	1,041,720	36,154	...	...	3,079	1,080,953
Cordova Fish & Cold Storage Co.	Cordova	725,188	8,744	5,512	...	...	739,444
Juneau Cold Storage Co.	Juneau	1,496,345	403,269	224,018	...	...	2,123,632
Ketchikan Cold Storage Co.	Ketchikan	907,000	535,000	104,000	...	...	1,546,000
Pelican Cold Storage Co.	Pelican City	3,036,719	2,883,483	116,210	...	...	6,036,412
Petersburg Cold Storage Co.	Petersburg	2,825,347	268,951	949,423	57,468	...	4,101,189
Sitka Cold Storage Co.	Sitka	2,518,882	1,160,712	173,037	...	...	3,852,631
Wrangell Cold Storage Co.	Wrangell	374,875	599,761	33,124	...	627	1,008,387
TOTAL		12,954,076	5,960,074	1,605,324	57,468	3,706	20,580,648

1954 - OREGON TRAWL FISH LANDINGS - 1954

Species	Oct. '53	Nov. '53	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	TOTAL
SOLE:													
Petrale	101,120	22,711	7,581	415	42,735	90,744	94,006	288,020	180,676	33,970	148,557	80,551	1,091,086
English	276,613	54,356	10,888	3,564	133,152	134,152	95,972	216,190	196,388	135,857	362,430	140,089	1,759,445
Dover	630,671	143,686	9,338	...	...	...	393,521	444,979	822,164	153,326	375,490	390,777	3,363,952
Rex	92,963	19,458	6,882	3,000	113,161	85,609	24,663	127,057	181,382	161,093	279,221	149,120	1,243,609
Turbot	29,000	9,700	2,800	2,730	36,313	36,000	17,515	106,461	180,878	229,317	393,095	110,399	1,154,208
Miscellaneous	36,000	12,088	8,743	396	61,317	23,000	3,865	76,690	90,241	195,122	385,700	136,170	1,029,332
Total Sole	1,166,367	261,999	46,232	10,105	386,678	370,199	628,642	1,259,397	1,651,729	908,685	1,944,493	1,007,106	9,641,632
Flounders	35,766	20,028	18,584	3,445	30,145	676	2,247	101,948	65,706	90,914	165,079	101,563	636,101
Cod	3,300	171	50	.....	26,681	2,380	152,123	198,535	130,800	29,105	42,104	51,376	636,625
Ling Cod	31,542	9,492	1,838	402	24,522	20,995	31,030	44,995	36,095	25,888	52,948	40,077	319,824
Rockfish	322,479	167,007	52,006	39,453	203,051	271,136	326,187	384,214	280,608	313,491	369,282	421,095	3,150,009
Ocean Perch	698,634	198,781	7,778	.....	930	13,728	826,621	379,747	283,082	376,231	353,100	649,408	3,788,040
Miscellaneous	76,458	3,796	6,446	1,764	5,957	125,779	62,027	57,559	119,201	64,057	44,012	77,014	644,070
Grand Total	2,334,546	661,274	132,934	55,169	677,964	804,893	2,028,877	2,426,395	2,567,221	1,808,371	2,971,018	2,347,639	18,816,301

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• *FISH STIX IMPACT*—Rocketing rise of fish sticks throughout the United States had direct and measurable effect upon the Pacific frozen fish business through 1954. As a matter of fact, this was perhaps the largest single influence which the year brought to bear upon the industry—not excluding the all-time-high production of halibut.

Impact of fish sticks on Pacific freezing was both direct and indirect. *Direct* in that a number of leading Pacific producers entered the fish sticking field, with modern plants and progressive merchandising. *Indirect* in that national sales of fish sticks averaging nearly 4,000,000 lbs. monthly unquestionably cut into the sales of other forms of packaged frozen fish.

Another indirect effect of the fish sticks boom has been to eliminate the market weakness which has more or less chronically characterised the distribution of frozen cod fillets. This fish in this form for years has been something of a marketing problem in the United States and Canada. However, cod has proven highly adaptable to fish sticks, and is the raw material for the enormous majority of sticks.

Where 1953 found frozen cod fillets in glut, they were in the strongest demand a year later, with imports readily absorbed.

Beyond question, removal of such of the available supply of cod fillets to the higher-priced fish sticks has served to support the packaged fish market to a degree, compensating in part from the diversion of demand to the ready-to-heat sticks.

• *SCRUTINIZING STICKS* — Pacific fish freezers scrutinized sticks carefully in 1954, and some moved actively into the field. In this, action followed much more quickly on the part of Pacific operators than it had in the case of fish fillets a quarter-century before.

U. S. Production of Fish Sticks

MONTH	(Pounds) COOKED	UNCOOKED	TOTAL 1954	TOTAL 1953
January	2,491,000	335,000	2,826,000	115,000
February	2,920,600	321,300	3,241,900	133,000
March	3,650,300	439,800	4,090,100	148,000
April	3,357,900	450,600	3,808,500	34,900
May	3,463,000	445,700	3,908,700	21,800
June	4,072,500	361,200	4,433,700	30,800
July	3,329,800	456,800	3,786,600	416,600
August	3,925,800	459,800	4,385,600	454,400
September	3,774,400	519,400	4,293,800	809,500
October	...	...	...	1,434,900
November	...	...	...	1,901,800
December	...	...	...	2,001,200
TOTALS	30,985,300	3,789,600	34,774,900	7,501,900

PACIFIC COAST FROZEN FISH

YEAR	(Pounds) Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	YEAR
1928	20,180,501	23,522,228	1,736,900	3,037,875	3,147,845	51,625,349	1928
1929	23,192,029	20,285,535	1,989,936	2,467,317	3,881,054	51,815,871	1929
1930	21,262,804	20,142,524	1,795,703	3,706,823	4,377,468	51,285,322	1930
1931	19,274,638	18,706,304	1,787,279	2,065,327	3,317,959	45,151,507	1931
1932	14,943,916	19,099,265	1,084,689	1,904,579	1,828,499	38,860,948	1932
1933	21,197,099	21,101,484	1,368,364	1,851,856	2,620,049	48,138,852	1933
1934	25,010,373	25,181,600	1,082,339	2,354,183	3,731,735	57,360,230	1934
1935	22,193,028	27,979,608	695,447	4,158,382	4,288,100	59,314,565	1935
1936	24,483,127	24,168,556	888,677	3,817,582	3,849,238	57,202,180	1936
1937	25,611,959	28,809,866	723,857	5,964,158	4,227,376	65,337,216	1937
1938	26,290,123	29,019,550	794,183	4,608,638	6,091,588	66,804,082	1938
1939	27,884,761	19,812,999	544,865	5,036,206	6,313,548	59,592,379	1939
1940	30,989,043	25,106,033	281,986	5,339,661	8,207,464	69,924,187	1940
1941	32,267,665	23,961,770	93,541	5,019,374	10,963,419	72,305,769	1941
1942	32,334,253	26,256,142	249,336	7,983,957	16,986,000	83,809,688	1942
1943	25,882,523	25,930,418	4,447,875	7,546,624	20,223,179	84,030,619	1943
1944	37,668,595	31,748,145	9,199,424	9,777,304	17,200,082	105,593,550	1944
1945	36,879,253	44,991,950	8,115,197	8,552,441	30,774,204	129,313,045	1945
1946	36,941,548	38,036,107	10,661,450	8,611,842	22,910,725	117,161,672	1946
1947	42,294,602	29,928,104	4,454,941	2,633,912	12,660,753	91,972,312	1947
1948	45,098,451	30,376,166	8,619,585	8,570,289	20,778,163	113,432,654	1948
1949	40,286,125	34,294,242	6,394,213	7,740,630	9,479,721	98,194,931	1949
1950	47,401,296	37,230,172	7,152,856	2,506,826	13,698,707	107,989,857	1950
1951	41,032,442	30,003,546	7,872,151	6,281,413	13,216,333	98,405,885	1951
1952	38,907,883	29,817,889	16,167,000	3,772,951	8,948,115	97,613,838	1952
1953	47,895,545	28,145,986	11,584,046	5,706,589	5,016,990	98,349,156	1953
1954	50,440,248	27,935,024	11,260,372	5,797,886	5,550,693	100,984,223	1954

NOTE: – Since 1942 Steelheads have been combined with Salmon. Figures given in this column for years after 1942 cover the quantities of frozen fillets of all varièties of fish reported. Data in this table based on individual reports of principals and custom storages to this journal.

OREGON OTTER TRAWL LANDINGS

YEAR	SOLE Petrale	English	Dover	Other	Flounders	"Turbot"	"Cod" Miscel.	Lingcod	Rockfish	Ocean Perch	Total
1942	3,745,236	227,783	2,308,308	1,671,162	443,840	71,137	47,255	989,142	1,728,299	1,086,242	12,318,404
1943	3,805,094	898,639	6,431,666	2,239,125	858,051	2,831,013	32,731	934,878	6,762,494	1,601,368	26,395,059
1944	2,019,148	1,057,701	1,593,469	254,400	877,048	700,147	594,810	1,208,051	11,266,874	398,836	19,970,484
1945	1,574,143	1,096,601	2,704,216	238,507	1,024,288	168,811	412,731	1,015,215	17,365,866	40,554	25,640,932
1946	2,984,092	3,950,609	3,197,988	132,136	1,279,839	297,708	260,574	1,150,803	10,671,012	31,310	23,956,071
1947	1,443,936	1,883,438	2,031,905	139,791	667,347	723,497	30,194	569,226	4,637,594	92,344	11,688,763
1948	2,605,460	3,266,422	2,802,181	272,878	1,428,660	1,219,208	29,083	798,952	3,890,003	338,739	16,651,586
1949	1,514,762	1,092,493	3,003,574	299,785	272,042	1,723,963	4,821	728,464	3,307,595	591,842	12,539,341
1950	3,151,833	2,399,103	6,306,144	392,775	355,125	......	349,660	649,719	4,018,991	Dogfish	17,623,350
1951	2,052,366	2,420,333	8,227,444	859,820	351,001	......	672,656	887,187	1,659,212	3,524,208	20,654,227
1952	1,545,540	1,949,294	7,289,059	1,308,778	242,535	......	388,111	511,269	3,722,048	4,431,991	21,388,625
1953	1,028,578	1,784,309	3,146,709	1,989,828	317,293	844,921	419,852	315,347	3,012,714	3,281,196	16,140,747
1954	959,674	1,417,588	2,580,257	2,096,807	561,723	1,112,708	1,190,474	276,952	2,608,517	2,882,847	15,687,547

HOLDINGS OF FROZEN SALMON IN CANADA BY MONTHS

Year	(Pounds)												Year
	Jan.	Feb.	March	April	May	June	July	August	September	October	November	December	
1943	6,388,157	4,182,422	3,187,367	1,424,622	749,130	421,899	618,566	1,292,092	2,491,083	3,922,968	7,861,284	9,720,826	1943
1944	8,245,459	6,228,542	4,036,324	2,572,067	1,723,599	1,192,453	1,323,970	2,225,799	4,458,686	7,569,646	9,592,929	8,525,062	1944
1945	5,754,484	4,212,779	3,064,075	1,916,384	1,224,894	653,660	975,614	2,603,913	5,848,648	8,889,338	12,264,609	11,286,939	1945
1946	8,995,555	6,201,817	4,664,805	2,859,525	1,470,544	719,534	1,477,539	2,310,009	4,287,429	6,910,578	10,414,810	12,529,428	1946
1947	10,484,688	8,068,793	5,641,958	4,244,254	3,066,183	2,041,997	1,849,142	3,317,623	4,788,724	6,115,604	10,991,495	11,346,880	1947
1948	12,471,000	10,916,000	8,925,000	5,322,000	3,454,000	2,821,000	2,721,000	3,992,000	4,679,000	6,007,000	12,481,000	10,379,000	1948
1949	9,310,000	7,786,000	5,574,000	3,880,000	2,997,000	2,467,000	3,220,000	4,770,000	7,350,000	9,306,000	14,987,000	11,573,000	1949
1950	9,573,000	8,243,000	6,045,000	4,095,000	2,916,000	2,193,000	2,526,000	3,493,000	7,153,000	13,008,000	16,790,000	14,409,000	1950
1951	12,032,000	10,172,000	6,808,000	5,009,000	4,023,000	2,597,000	2,640,000	4,450,000	7,560,000	10,811,000	16,479,000	14,998,000	1951
1952	13,342,000	10,838,000	9,247,000	6,657,000	5,785,000	4,394,000	5,185,000	6,446,000	9,239,000	10,532,000	12,236,000	11,480,000	1952
1953	10,455,000	8,096,000	5,848,000	4,287,000	2,985,000	2,649,000	3,477,000	4,480,000	7,533,000	10,450,000	15,498,000	13,095,000	1953
1954	11,591,000	10,054,000	7,516,000	4,626,000	3,527,000	2,380,000	1,973,000	4,538,000	6,052,000	9,597,000	12,369,000	*	1954

NOTE: – All figures in accordance with latest reports. Source: Dominion Bureau of Statistics, Department of Trade and Commerce. * Data not available.

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A number of points came in for careful study, and many of them were not regarded as resolved by the advent of 1955. Among the problems:

Degree of Diversion of demand from other forms of packaged fish to the new sticks: Did sticks merely replace packaged fish in other form in the consumer's market basket? Or did they attract new customers or produce more frequent purchases of fish?

Early opinion seemed to be that in large degree the sticks created additional business; but by the end of 1954 realistic analysts were inclined to classify this as wishful thinking to a large degree. Feeling then was that, in the field of consumer sales at least, the sticks had displaced other packaged fish forms to at least one-third of the volume of sticks sales—perhaps more.

Type of Consumers using sticks has come in for intensive scrutiny on the Pacific market, with opinion inclining to the belief that they find their popularity in large part as result of children's unquestioned inclination for fish in this new form. Again, fish sticks demand traces essentially to those consumers to whom convenience is a primary consideration. Confirmed fish-eaters, who buy fish primarily because they *like* fish, will try sticks one; but few of them become repeat customers.

Children and convenience customers are believed to account for a very large percentage of the *addition* which fish sticks have produced in Pacific sales of packaged frozen fish.

Ready-Cooked or Not has been one of the choices facing the operators entering and studying the fish stick business on the Pacific. Some have elected to produce only uncooked, breaded frozen sticks, but they have been in the minority.

National figures indicate that 10.9% of the fish sticks production has been in the uncooked form. While no actual data is available, it appears probable that most of the unfrozen

1954 - FILLET IMPORTS TO U.S. - 1954

Country	(Pounds)												
	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Total
Canada	3,480,365	6,554,462	4,977,756	6,297,052	5,185,300	5,884,268	6,564,473	10,914,773	8,706,529	8,130,365	11,405,162	6,918,043	85,108,548
Denmark	73,670	7,308	90,717	189,354	535,767	561,971	408,380	382,074	61,771	302,270	29,849	40,500	2,773,632
England	1,980	27,038	1,108	4,020	57,958	32,908	15,744	30,242	14	300	1,104	...	172,416
France	...	73,700	18,930	76,485	135,185	...	...	102,269	...	...	104,490	...	511,059
W. Germany	145,960	68,700	92,500	56,890	601,858	549,525	664,266	578,675	303,185	183,133	276,010	214,429	3,735,131
Holland	2,912	7,840	1,070	...	63,363	35,220	36,328	103,475	19,884	35,080	37,096	32,924	375,192
Iceland	1,919,005	4,667,212	2,417,484	893,344	5,884,944	2,363,743	380,007	3,927,462	4,771,635	3,202,333	2,931,248	3,785,880	37,144,297
Norway	149,556	556,448	556,416	...	1,073,048	...	643,636	363,702	525,756	231,008	288,912	406,416	4,794,898
Misc.	...	...	...	...	...	55	207,020	78,653	...	1,800	...	308,285	595,813
TOTAL	5,773.448	11,962,708	8,155,981	7,517,145	13,537,423	9,427,690	8,919,854	16,481,325	14,388,774	12,176,289	15,163,871	11,706,477	135,210,985

ALASKA FROZEN FISH PACKS

YEAR	(Pounds)						YEAR
	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	
1928	9,328,837	7,275,009	4,105	623,857	161,332	17,393,140	1928
1929	11,789,477	5,819,643	3,000	514,405	268,857	18,395,382	1929
1930	11,859,772	6,217,498	...	511,249	168,870	18,757,389	1930
1931	6,641,793	5,071,593	4,431	254,856	594,392	12,567,065	1931
1932	2,332,728	5,058,857	1,275	51,284	61,461	7,505,605	1932
1933	5,851,556	4,102,999	3,747	91,066	93,841	10,143,209	1933
1934	6,133,142	5,534,916	27,272	167,725	155,453	12,018,508	1934
1935	5,021,708	4,662,272	7,600	633,412	221,066	10,546,058	1935
1936	7,287,861	5,284,030	24,091	834,140	88,705	13,518,827	1936
1937	7,465,551	5,794,466	2,500	1,924,817	305,149	15,492,483	1937
1938	6,904,640	7,918,897	4,274	773,787	68,305	15,669,903	1938
1939	6,389,488	4,783,751	2,465	1,525,600	280,794	12,982,098	1939
1940	8,310,553	6,304,064	11,413	1,824,532	682,721	17,133,283	1940
1941	7,564,940	6,119,050	...	1,720,977	924,420	16,329,387	1941
1942	8,720,056	7,908,717	8,606	4,851,974	361,554	21,850,907	1942
1943	11,068,724	9,114,694	...	3,986,438	825,505	24,995,361	1943
1944	19,214,203	10,753,715	...	5,413,503	1,892,846	37,274,267	1944
1945	19,353,649	13,374,086	...	5,955,388	3,396,849	42,079,972	1945
1946	14,966,616	12,036,956	30,000	4,519,989	2,075,530	33,629,091	1946
1947	20,638,301	10,197,755	4,597	866,535	383,473	32,110,661	1947
1948	26,020,134	9,582,232	165,370	5,065,056	5,290	40,838,082	1948
1949	20,914,221	12,222,337	1,309	3,772,851	271,901	37,182,619	1949
1950	25,625,940	8,467,426	5,113	566,965	98,409	34,763,853	1950
1951	19,577,948	8,780,110	6,988	3,241,556	820,473	32,427,075	1951
1952	17,341,747	5,327,279	8,977	988,520	205,955	23,872,478	1952
1953	19,727,501	6,399,247	46,675	2,599,418	730,465	29,503,306	1953
1954	20,987,363	9,341,468	57,468	3,072,158	203,706	33,662,163	1954

NOTE: – Since 1942 Steelheads have been combined with Salmon. Figures given in this column cover the quantities of the frozen fillets of all varieties of fish reported. Data in this table based on individual reports of packers and custom cold storages to this journal.

HALIBUT FREEZING IN CANADA BY MONTHS

Year	(Pounds)												
	Jan.	Feb.	March	April	May	June	July	August	September	October	November	December	TOTAL
1943	282,093	296,651	379,829	573,065	2,311,086	2,630,088	654,403	683,421	1,149,085	175,542	100,641	86,663	9,322,567
1944	282,698	273,600	348,847	86,289	314,432	5,465,098	3,232,596	802,380	499,926	436,090	171,886	195,405	12,109,247
1945	394,811	222,238	240,413	220,018	3,489,342	3,408,682	3,408,682	645,187	924,675	924,671	623,475	362,478	14,864,672
1946	183,346	344,076	571,122	10,869	4,558,350	3,798,912	849,659	1,403,497	335,440	174,361	304,517	166,185	12,700,334
1947	332,759	217,645	358,022	167,994	6,059,714	4,782,689	2,186,016	2,575,403	287,595	206,741	52,711	18,000	17,245,239
1948	132,000	68,000	186,000	21,000	7,623,000	4,530,000	1,541,000	210,000	276,000	56,000	182,000	†	14,825,000
1949	30,000	7,000	21,000	49,000	7,821,000	4,990,000	1,878,000	402,000	85,000	340,000	43,000	9,000	15,675,000
1950	10,000	41,000	41,000	260,000	8,953,000	4,991,000	2,039,000	392,000	90,000	321,000	237,000	(2)	17,375,000
1951	16,000	42,000	32,000	87,000	11,499,000	3,071,000	560,000	1,109,000	164,000	44,000	7,000	21,000	16,652,000
1953	79,000	136,000	119,000	165,000	5,662,000	9,498,000	2,487,000	2,175,000	222,000	77,000	15,000	3,000	20,638,000
1954	4,000	103,000	156,000	110,000	6,369,000	9,266,000	2,696,000	2,951,000	262,000	116,000	‡	‡	21,923,000

NOTE: – All figures in accordance with latest reports. Source: Dominion Bureau of Statistics – Ottawa, Canada. ‡ Data not available.
(2) Less than three firms reported, therefore the data may not be shown.

SALMON FREEZING IN CANADA BY MONTHS

Year	Jan.	Feb.	March	April	May	June	July	August	September	October	November	December	TOTAL
	(Pounds)												
1943	42,410	76,821	1,722	1,410	46,691	579,333	1,289,797	1,842,880	3,306,198	4,693,989	2,738,670	194,089	14,814,010
1944	190,468	366,346	199,226	34,334	35,166	799,534	1,736,542	2,902,804	3,602,202	3,489,092	490,764	216,862	14,063,340
1945	419,230	95,244	360,661	19,945	158,305	822,475	822,475	3,789,008	4,264,479	4,264,479	1,313,675	401,122	16,731,098
1946	18,904	520,509	902,832	43,216	114,952	1,213,867	2,131,929	3,098,060	3,709,790	6,134,139	3,262,982	421,969	21,573,149
1947	271,572	221,343	270,066	41,620	342,709	921,265	2,328,428	2,659,952	2,628,493	6,477,323	1,873,407	48,000	18,084,178
1948	443,000	147,000	7,000	15,000	243,000	1,498,000	2,237,000	2,626,000	2,771,000	10,387,000	2,009,000	291,000	22,674,000
1949	157,000	22,000	33,000	107,000	242,000	1,935,000	2,961,000	4,565,000	3,917,000	7,362,000	1,463,000	24,000	22,788,000
1950	4,000	22,000	22,000	5,000	227,000	1,224,000	2,462,000	5,246,000	8,678,000	7,149,000	702,000	8,000	25,749,000
1951	25,000	72,000	2,000	11,000	229,000	1,114,000	2,677,000	4,329,000	4,690,000	6,989,000	1,311,000	16,000	21,465,000
1952	10,000	29,000	100,000	80,000	395,000	1,804,000	3,227,000	5,244,000	3,034,000	2,151,000	1,508,000	18,000	17,600,000
1953	28,000	72,000	30,000	86,000	349,000	1,512,000	2,934,000	4,749,000	5,149,000	6,872,000	665,000	38,000	17,149,000
1954	15,000	70,000	353,000	29,000	203,000	709,000	3,137,000	2,904,000	4,326,000	4,852,000	†	†	16,598,000

NOTE;– All figures in accordance with latest reports. Source: Dominion Bureau of Statistics, Dept. of Trade & Commerce. † Data not available.

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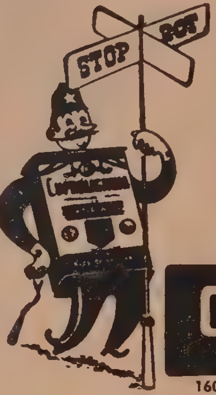

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sticks have been prepared for the restaurant and institutional trade for frying in large quantity or to-order.

- *TECHNOLOGICAL CONSIDERATIONS* enter into the fish sticks business, and by its relatively slow entry into the field the Pacific industry has been able to benefit by the mistakes and experience of the pioneers.

Perhaps the foremost problem in this category—amount of breading—may be related more closely to common honesty and business morals than to technology. Certain it is that, with the lower cost of the basic raw material, the temptation has not been as great—nor as seriously succumbed to —as in the case of breaded shrimp.

Sticks produced on the Pacific Coast have been virtually free from offense from the standpoint of excessive breading.

Shelf Life of fried fish sticks is a special problem for Pacific Coast operators, due to the high degree of seasonality in their supply of fish. Fluctuations in supply are being overcome by carrying in frozen storage sufficient stocks of fillets-in-blocks to smooth the curve.

Oil Characteristics are one of the important factors in governing shelf life. Most fryers have taken advantage of the high-grade technological consulting services offered by the oil processors and use the highest quality frying fats.

Beside the chemical composition of the oil, shelf life also is affected by the way the oil is handled, the temperature at which cooking is done, the regularity with which crumbs of breading are filtered out, and the length of time the oil is used. Crumbs burning in the oil release products which accelerate the breakdown of the oil and the development of free fatty acids and tendencies toward rancidity.

Types of Package and of wrapping influence shelf life also, both through retarding physical deterioration of the product through development of rancidity and by protection of the package's appearance in the frozen food cabinet.

Storage Conditions are of the utmost importance in the case of fish sticks, and optimum treatment in refrigeration is pretty well understood by the packer. In the food stores and their warehouses, however, all packaged frozen foods are exposed to carelessness which is one of the crowning problems of the industry. To cope with

WASHINGTON TRAWL LANDINGS

Year	Sole and Flounders	"Cod"	Lingcod	Sablefish	Rockfish	Miscellaneous	TOTAL	Year
1930	339,932	26,318	....	....	24	32,419	398,693	1930
1931	323,064	30,269	....	....	....	3,674	357,007	1931
1932	281,302	46,512	....	....	1,000	1,374	330,188	1932
1933	296,517	59,965	....	....	....	5,200	361,682	1933
1934	247,684	25,405	13,454	....	8,313	6,116	300,972	1934
1935	2,575,998	185,786	285,759	....	63,284	23,743	3,134,570	1935
1936	4,791,994	406,361	237,229	....	81,301	22,650	5,539,535	1936
1937	4,265,491	441,130	235,431	....	72,640	14,919	5,029,611	1937
1938	5,036,852	456,814	286,439	....	107,163	21,952	5,909,220	1938
1939	4,659,122	354,805	197,982	....	112,395	231,614	5,555,918	1939
1940	5,917,096	518,705	247,007	....	248,711	946,788	7,878,307	1940
1941	7,977,576	457,253	199,128	....	93,286	582,295	9,309,538	1941
1942	9,575,018	1,172,811	3,845,055	118,406	1,034,417	717,279	16,462,986	1942
1943	13,350,936	996,963	4,859,693	778,451	4,464,702	1,015,394	25,366,139	1943
1944	7,806,664	623,151	4,254,298	1,429,682	5,132,233	270,898	19,516,926	1944
1945	9,185,003	2,417,053	4,177,839	529,507	16,093,712	211,068	32,614,182	1945
1946	9,709,656	3,701,647	3,193,436	628,756	10,094,207	93,705	27,421,407	1946
1947	9,294,256	2,442,583	2,481,497	155,981	6,024,582	99,887	20,498,786	1947
1948	13,744,310	5,371,084	4,649,453	314,229	10,262,442	162,166	34,503,684	1948
1949	10,368,493	5,465,538	3,063,672	586,368	12,610,526	588,282	32,682,879	1949
1950	10,379,364	6,330,873	2,365,948	497,822	12,210,430	414,731	32,199,168	1950
1951	11,016,660	8,395,728	1,844,559	1,277,731	9,939,526	2,057,590	34,531,794	1951
1952	12,865,755	9,976,893	1,510,339	643,485	11,288,025†	3,375,374	39,659,871	1952
1953	7,890,623	8,183,080	949,757	225,228	6,979,133†	4,468,543	28,696,364	1953
1954	9,200,000	12,500,000	1,600,000	200,000	10,250,000†	4,000,000	37,750,000	1954

† Includes Pacific Ocean Perch: 1952 – 1,694,355; 1953 – 3,101,562; 1954 – 6,250,000.

NOTE: – 1954 figures are complete through December 1, 1954, and include estimates for the balance of the year prepared by the Washington Department of Fisheries records for the last three years.

COLUMBIA RIVER FROZEN FISH PACKS

YEAR	(Pounds)						YEAR
	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	
1928	...	326,541	1,156,598	30,000	102,188	1,615,327	1928
1929	24,000	607,483	1,544,779	78,000	233,527	2,487,789	1929
1930	14,700	374,322	1,322,737	...	547,006	2,258,765	1930
1931	4,699	392,581	1,311,033	35,600	559,993	2,303,906	1931
1932	...	733,234	538,795	10,000	54,427	1,336,456	1932
1933	75,000	886,789	859,563	...	153,834	1,975,186	1933
1934	199,362	489,183	959,916	49,620	154,765	1,852,846	1934
1935	161,827	943,442	461,847	60,494	243,934	1,871,544	1935
1936	48,818	178,922	629,896	117,624	123,920	1,099,182	1936
1937	25,000	391,000	520,996	35,000	61,253	1,033,249	1937
1938	211,350	207,478	465,909	118,465	119,594	1,122,796	1938
1939	252,692	607,100	352,884	135,347	243,600	1,591,623	1939
1940	553,269	267,370	33,573	98,642	253,634	1,206,488	1940
1941	602,210	178,498	1,628	118,120	761,013	1,661,469	1941
1942	216,684	563,780	222,684	186,710	1,556,008	2,745,866	1942
1943	161,452	956,719	3,958,405	359,050	2,311,503	7,747,129	1943
1944	628,285	1,917,542	5,733,930	178,742	758,745	9,217,244	1944
1945	506,242	2,655,787	2,176,400	270,634	8,670,915	14,279,978	1945
1946	555,884	4,373,849	4,511,986	416,003	3,147,126	13,004,848	1946
1947	618,266	1,272,508	1,681,488	60,786	985,697	4,618,745	1947
1948	410,091	1,187,802	4,241,705	329,857	...	6,169,455	1948
1949	324,527	458,280	2,567,863	289,205	121,994	3,761,869	1949
1950	417,651	483,068	3,382,682	63,081	333,117	4,679,599	1950
1951	291,936	735,305	3,199,153	189,694	124,761	4,540,849	1951
1952	219,223	1,157,484	3,827,761	166,072	136,084	5,506,624	1952
1953	389,483	630,630	2,382,420	204,842	676,081	4,283,456	1953
1954	864,352	788,963	1,672,109	154,456	210,124	3,690,004	1954

NOTE: – Since 1942 Steelheads have been combined with Salmon. Figures given in this column for years after 1942 cover quantities of frozen fillets of all varieties of fish reported. Data in this table based on reports of principals and custom freezers to this journal.

and overcome the carelessness of the retail merchant would be one of the greatest contributions possible to the future prosperity of packaged frozen foods—and particularly fish sticks.

Breading Materials are generally of two different types: (a) those prepared by specialists in this field, with formulation designed to meet the individual requirement of volume users, if desired; and (b) the home-blended products of operators who think they can effect a saving by entering a field where quantity buying, close quality control, specialized storage and shipping, and continuous laboratory work are all-important.

The trend is all toward the prepared breading from specialist manufacturers.

Species and Labels provide an interesting problem for the Pacific fish stick packer, as the number of species available for possible use in this form is considerable. At one time the industry over the country was inclined just to label the product "Fish Sticks," without regard to the variety. Then "Contains cod, haddock, pollock or perch" came into general use.

On the Pacific Coast packers generally have labelled their sticks as to the actual species in the package: "Cod," "Sole," "Halibut," "Pacific Ocean Perch," etc. This specific species designation is now "advised" by the U. S. Food and Drug Administration.

● *WHO PACKS STICKS?*—An interesting aspect of the development of the fish stick business on the Pacific Coast lies in whether production of the sticks properly is a function of a fish-packing plant or of a food-fryer.

Some of the most important operators on the Pacific Coast have taken each of these paths. At time of writing, there are more different principals having their sticks packed for them on a custom basis than there are operators producing their own.

However, it would appear that the trend of the larger producers is to operate their own sticking departments directly in connection with their refrigerated storage and plate or blast freezers.

Custom preparation of fish sticks, and the entry into the field of firms not previously associated with the

1954 -CALIFORNIA FISH FREEZINGS-1954

(Pounds)

Species	Nov. '53	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	Total
Bait & Animal Food	122,000	35,600	....	48,000	20,276	207,696	126,600	204,133	284,958	445,867	140,000	72,000	1,707,130
Fillets:													
Cod	....	....	....	....	795	1,535	2,470	10,845	2,236	3,963	149	149	22,142
Flounder	....	830	810	1,080	1,047	....	....	....	....	....	....	....	3,767
Lingcod	770	....	1,675	....	....	416	3,660	366	401	808	350	350	8,796
Mackerel	....	....	....	....	....	....	....	....	....	22,429	7,278	....	29,707
Ocean Perch, Pacific	....	1,118	1,780	392	....	....	1,110	2,010	3,865	2,853	405	405	13,938
Rockfish	....	2,120	....	....	4,136	786	800	2,870	...	1,378	...	...	12,090
Sole	....	2,266	883	1,015	7,548	1,786	1,880	1,117	2,255	2,528	1,718	1,718	24,714
Other Fillets	92,630	111,124	55,082	76,220	155,623	200,615	307,677	314,303	165,212	182,096	197,279	219,219	2,077,080
Flounder, etc.	....	255	....	235	205	383	....	....	....	....	96	96	1,270
Herring, Sea.	....	....	....	....	....	....	16,782	7,656	103,375	...	...	...	127,813
Halibut	....	....	....	....	....	....	499	6,774	20,321	4,273	44,133	42,292	118,292
Mackerel	45,089	....	....	21,612	34,740	86,660	82,464	35,786	34,542	38,386	14,684	11,904	405,867
Sablefish	7,845	8,090	...	288	7,246	13,072	7,533	23,888	29,221	43,070	40,785	53,281	234,319
Salmon:													
King or Chinook	2,908	....	....	....	....	1,886	20,054	166,123	193,051	88,656	44,033	11,312	528,023
Silver or Coho	....	....	....	....	....	....	....	1,844	2,286	....	....	....	4,130
Fall or Chum	1,354	....	....	....	....	....	....	....	....	3,727	1,014	2,836	8,931
Pink	....	....	....	....	....	....	20,290	4,863	138,377	4,559	....	....	168,689
Unclassified	....	....	....	....	....	....	....	267,406	....	....	....	....	267,406
Sea Bass	2,960	330	....	15,813	34,362	....	3,167	852	8,976	47,480	3,890	1,108	118,938
Shad (Incl. Shad Roe)	....	....	....	....	....	....	69,879	....	....	....	....	....	69,879
Smelt	....	287	2,340	2,475	10,070	3,538	13,114	....	300	....	148	670	32,942
Swordfish	....	....	....	....	....	....	....	702	....	....	....	....	702
Tuna	....	5,114	....	....	....	25,115	46,395	43,892	89,169	244,682	1,108	612	456,087
Unclassified	97,032	145,552	184,042	192,033	199,494	444,762	170,926	134,280	256,110	290,710	217,521	113,289	2,445,751
TOTAL	372,588	312,686	246,612	359,163	475,542	988,250	895,300	1,229,710	1,334,655	1,427,465	714,591	531,241	8,887,803

PUGET SOUND FROZEN FISH PACKS

(Pounds)

YEAR	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	YEAR
1928	3,929,600	5,737,402	72,399	1,676,530	1,091,008	12,506,939	1928
1929	4,365,139	5,737,367	118,034	1,339,912	1,272,772	12,833,224	1929
1930	4,008,690	6,767,538	58,246	2,057,845	2,114,206	15,006,525	1930
1931	7,124,976	7,034,178	57,815	941,986	742,543	15,901,498	1931
1932	6,241,135	4,764,945	11,375	1,045,588	470,872	12,533,915	1932
1933	8,575,289	8,685,729	*160,080	842,039	456,298	18,719,435	1933
1934	9,592,971	8,276,309	* 54,479	1,381,287	1,306,520	20,611,566	1934
1935	7,056,953	10,996,930	...	1,740,122	1,415,122	20,939,915	1935
1936	7,395,485	6,704,971	...	1,309,243	811,273	16,220,972	1936
1937	8,490,747	10,121,808	...	2,314,399	1,578,453	22,505,407	1937
1938	8,174,462	7,796,087	...	2,248,790	2,342,902	20,562,241	1938
1939	7,795,768	4,488,450	...	1,887,336	1,827,266	15,998,820	1939
1940	8,645,576	6,748,021	...	1,832,112	1,600,432	18,826,141	1940
1941	9,440,017	7,569,858	...	1,348,723	2,345,540	20,704,138	1941
1942	6,815,874	5,608,307	Fillets	1,221,946	3,066,177	16,712,304	1942
1943	4,250,010	2,530,755	429,394	860,577	6,846,616	14,917,352	1943
1944	5,237,071	4,264,315	2,893,179	2,305,848	3,777,952	18,478,365	1944
1945	6,728,420	9,030,403	4,193,268	1,071,769	5,673,660	26,697,547	1945
1946	8,050,947	6,388,388	3,895,400	1,714,185	2,807,240	22,856,160	1946
1947	4,933,377	4,241,310	1,658,152	921,204	1,004,330	12,758,373	1947
1948	7,152,574	4,355,399	2,393,487	1,519,514	797,882	16,218,856	1948
1949	7,535,497	5,123,763	1,192,440	1,846,314	1,088,490	16,786,504	1949
1950	6,270,705	4,706,925	1,166,019	1,547,807	4,520,880	18,917,886	1950
1951	7,789,536	4,314,516	2,119,910	1,791,000	2,275,577	18,290,539	1951
1952	8,345,650	5,532,676	3,400,786	1,661,919	751,310	19,296,340	1952
1953	9,473,444	6,380,981	1,654,189	1,651,734	462,602	19,622,950	1953
1954	12,201,900	4,740,637	2,651,084	1,498,376	460,545	21,552,542	1954

NOTE: – Since 1942 Steelheads have been combined with Salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported.
* All Steelheads frozen on Puget Sound were Columbia River fish shipped to Seattle for freezing.

fisheries, stems in some degree from the fact that a substantial portion of the fish sticks produced in all parts of the United States are cut from frozen blocks of imported fillets. This renders the sticker independent of primary sources of supply and connections and know-how in the fish business.

Action by Congress to adjust the duty on ready-fried fish sticks entering this country, taken during the late summer of 1954, had the effect of checking a growing trend for the ready-to-heat sticks to be imported in that form. Under existing tariff conditions it appears entirely probable that the imports for fish sticking will be entirely in the form of fillets frozen into blocks suitable for cutting into sticks.

Washington Eulachon Smelt Catches

YEAR	(Pounds)				
	Cowlitz River	Grays River	Lewis River	Columbia River	TOTAL
1939	1,012,730	30,300	1,342,675	184,348	2,570,053
1940	730,170	60,450	1,341,250	384,650	2,516,520
1941	1,794,233	....	376,975	42,919	2,214,127
1942	1,570,915	51,750	....	54,325	1,676,990
1943	2,973,340	3,675	270,375	124,500	3,371,790
1944	1,125,674	10,900	504,000	249,522	**1,942,771
1945	2,048,438	42,753	1,552,770	215,040	*3,891,463
1946	2,674,040	300	....	51,099	2,725,439
1947	1,192,663	....	....	128,280	1,320,943
1948	2,197,810	....	547,590	296,240	3,041,640
1949	750	250	1,940,850	387,701	2,329,551
1950	31,320	11,600	557,157	379,730	***980,832
1951	....	....	1,050	649,838	† 651,268
1952	377,754	....	....	400,747	† 796,309
1953	799,788	15,555	....	206,909	† 1,025,052
1954	792,902	....	179,946	308,742	† 1,297,455

* Includes 32,462 pounds caught in the Kalama River. *** Includes 1,025 pounds taken in Kalama River. ** Includes 44,300 lbs. from Kalama River; 7,675 lbs. from Naselle River; and 700 lbs. from Nemah River. † Total includes minor catches from the Kalama River, 15,865 lbs. in 1954.

1954 - Seattle - Weighted Average Prices Paid to Fishermen - 1954

Cts. per Pound

SPECIES	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.
Cod, True, ex-vess., Dr.	7.0	7.0	7.0	7.0	7.0	7.0	...	7.0	7.0	7.0	7.0	...
Cod, True, ex-vess., Rd.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0
Flounder, ex-vess., Rd.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Halibut, No. 1, ex-vess., Dn.	...	...	...	...	...	19.4	21.3	22.2	18.4	24.5	31.0	32.6
Halibut, No. 2, ex-vess., Dn.	...	...	...	...	...	17.0	18.7	19.7	16.7	19.2	...	...
Lingcod, ex-vess., Dr.	13.0	14.5	11.1	9.6	8.8	8.6	8.4	8.8	7.6	...	8.3	10.0
Lingcod, ex-vess., Rd.	...	...	...	6.8	...	...	...	...	6.8	...	6.8	5.0
Pacific Ocean Perch, ex-vess., Rd.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.5
Rockfish, ex-vess., Dr.	9.7	13.3	13.9	10.9	...	4.7	5.0	5.0	4.9	5.0	5.0	5.1
Rockfish, ex-vess., Rd.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Sablefish, ex-vess., Dr.	...	...	...	12.0	12.0	10.2	17.2	16.7	15.5	14.9	15.3	16.1
Sablefish, ex-vess, Rd.	...	...	...	...	6.0	6.0	6.0	6.0	6.0	6.0	6.0	9.7
Salmon:												
Chinook, large, ex-vess., Dn.	...	...	...	...	38.7	45.1	46.0	49.0	49.0	50.7	54.0	59.0
Chinook, small, ex-vess., Dn.	...	...	...	...	38.7	40.9	37.0	36.7	33.3	37.5	37.4	38.0
Chinook, white, ex-vess., Dn.	...	...	...	...	38.7	26.8	26.0	26.8	27.6	27.6	34.6	...
Chinook, ex-vess, Rd.	...	...	...	...	...	...	...	22.0	...	18.0	21.5	24.0
Chum, ex-vess., Rd.	...	...	...	...	...	...	...	...	...	14.0	14.0	14.0
Silver, ex-vess., Dn.	...	...	...	...	...	...	26.5	27.2	28.7	31.3	36.0	40.0
Silver, ex-vess., Rd.	...	...	...	...	...	...	...	...	...	22.0	22.0	22.0
Sole, Petrale, ex-vess., Rd.	7.2	7.7	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Sole, Petrale, ex-vess., Rd.	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	9.0
Sole, Other, ex-vess., Rd.	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.5	6.0	
Tuna, Albacore, ex-ves., Rd.	...	...	...	...	...	...	...	...	...	...	20.0	...

BRITISH COLUMBIA FROZEN FISH PACKS

YEAR	(Pounds)						YEAR
	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	
1928	6,922,064	10,183,276	503,798	707,488	1,793,317	20,190,943	1928
1929	7,013,413	7,971,042	324,123	533,000	1,305,898	17,147,476	1929
1930	5,375,642	6,544,460	414,720	645,142	741,386	13,721,350	1930
1931	5,467,170	5,758,952	414,000	292,829	240,469	12,173,420	1931
1932	6,197,495	7,672,062	533,244	307,922	228,740	14,939,463	1932
1933	6,620,254	7,158,967	344,974	388,751	471,924	14,984,870	1933
1934	8,956,815	10,182,469	40,672	180,119	920,509	20,280,582	1934
1935	9,756,717	10,707,787	226,000	789,000	861,860	22,341,364	1935
1936	9,504,340	11,320,303	234,690	1,266,555	742,043	23,062,931	1936
1937	9,550,661	11,698,592	200,361	1,378,442	698,481	23,526,537	1937
1938	10,870,867	12,662,933	324,000	1,329,009	987,260	26,174,069	1938
1939	13,414,006	9,631,742	189,516	1,080,053	813,956	25,129,273	1939
1940	13,453,612	11,347,239	237,000	1,285,915	1,317,404	27,641,170	1940
1941	14,560,498	9,632,364	91,913	1,604,554	966,559	26,855,888	1941
1942	16,571,639	12,150,338	18,046	1,697,327	3,541,929	33,979,279	1942
1943	10,397,337	13,313,250	60,076	2,320,559	2,667,881	28,759,103	1943
1944	12,574,036	14,793,573	572,315	1,856,055	3,763,055	33,559,190	1944
1945	10,290,942	19,931,674	1,745,529	1,254,623	5,890,142	39,112,910	1945
1946	12,782,294	14,384,544	1,972,000	1,778,855	11,486,110	42,403,803	1946
1947	14,930,795	13,583,850	1,057,828	729,492	6,357,106	36,659,071	1947
1948	11,512,287	15,209,533	1,650,856	1,651,028	18,236,028	48,259,732	1948
1949	12,629,300	19,584,100	3,480,500	1,967,500	6,946,700	44,608,100	1949
1950	15,081,000	23,425,000	701,789	271,848	5,393,954	44,873,591	1950
1951	13,358,332	16,000,909	2,292,931	1,050,718	7,492,483	40,495,373	1951
1952	12,992,587	17,351,803	7,418,334	883,769	3,720,635	42,367,128	1952
1953	18,214,460	14,032,572	5,462,997	1,078,236	524,395	39,312,660	1953
1954	16,268,341	12,354,783	4,687,477	838,577	749,663	34,898,841	1954

NOTE: – Since 1942 all Steelheads have been combined with Salmon; and figures given in the "Steelheads and Fillets" Column for years 1942 cover quantities of fillets of all varieties of fish reported.

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MILD CURE

Mild curing of salmon declined by slightly more then 10% on the Pacific Coast in 1954, due to the relative scarcity of troll King salmon suitable for splitting.

When shortage of Kings became evident, packers sought to offset it with Silvers. The pack of these fish, however, fell far short of making up the deficit.

- Salmon mild curing shrank materially in 1954 from the year before, although it was more than 1,000 tierces above the weak 1952 pack.

Total tierces for 1954 counted 8,103, of which 313 were Silvers.

The 1953 production was 8,977 tierces, with only 75 Silvers.

The Silver pack of 1954 was the largest since 1946.

All of the principal districts save California shared in the sharp decline registered in 1954, with most of the falling-off in Alaska and Puget Sound.

The reduced pack was due entirely to a shortage of troll King salmon suitable for splitting.

Faced with scarcity, the packers turned to Silvers in late summer and early fall, and got up a substantial pack of this variety.

Significantly, the Silvers of 1954 were extraordinary in size, much of the production counting from 115 to 130 to the tierce. In some cases the Silvers in a pack compared very closely with the Kings in count.

Prices paid for prime troll Alaskas for curing in the fall, when quality was high and the pack was known to be short, rocketed as high as 60c per lb. to the fishermen for salmon dressed head-on.

1954 -MILD CURED SALMON- 1954

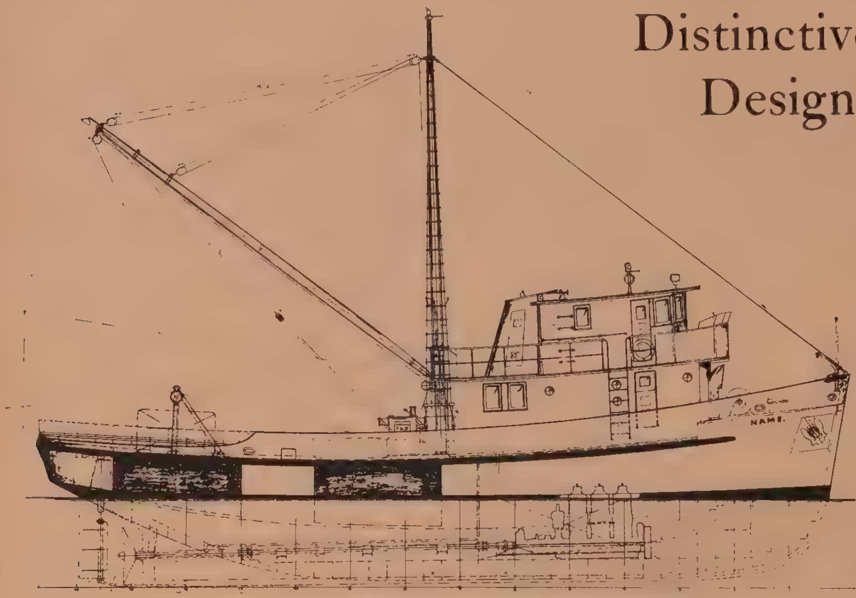
Company	Location	Tierces (825 lbs. Net)
ALASKA		
Booth Fisheries Corporation	S. E. Alaska	163
Halibut Liver Producters	Juneau	19
	Pelican	211
	Sitka	72
Juneau Cold Storage Co.	Juneau	157
Kayler-Dahl Fish Co.	Petersburg	280
McCallum-Legaz Fish Co.	Sitka	110
Northern Products Corporation	Juneau	144
	Sitka	287
	Pelican	178
	Wrangell	121
	Petersburg	88
Oxenberg Bros.	Ketchikan	122
	Juneau	69
	Pelican	72
E. C. Phillips	Ketchikan	60
San Juan Fishing & Packing Co.	Ketchikan	17
	Juneau	19
Sebastian-Stuart Fish Co.	Juneau	79
	Pelican	68
Whiz Fish Products Co.	Juneau	11
	Ketchikan	221
	Pelican	221
Vita Food Products	Juneau	220
	Ketchikan	199
	Pelican	374
	Petersburg	150
	Wrangell	57
	Sitka	214
Total Alaska		4,003

Company	Location	Tierces (825 lbs. Net)
BRITISH COLUMBIA		
British Columbia Packers, Ltd.	All Stations	102
Canadian Fishing Co.	All Stations	33
Fishermen's Cooperative Federation	Prince Rupert	250
	Vancouver	100
Seafood Products Co.	Vancouver	160
Total British Columbia		645
PUGET SOUND		
Booth Fisheries Corporation	Seattle	36
Eardley Fisheries Co.	Seattle	765
McCallum-Legaz Fish Co.	Seattle	24
New England Fish Co.	Puget Sound	149
San Juan Fishing & Packing Co.	Seattle	363
Seaport Fish Co.	Seattle	51
Sebastian-Stuart Fish Co.	Seattle	20
Washington Fish & Oyster Co.	Seattle	387
Whiz Fish Products Co.	Seattle	360
Total Puget Sound		2,155
CALIFORNIA		
Grader Fish Co.	Fort Bragg	385
Miscellaneous	California	915
Total California		1,300
Total Kings		7,790
Total Silvers		313
GRAND TOTAL		8,103

NOTE: - In addition to Kings and Silvers noted above, Chase Seafood Company, Everett, Washington, mild cured 22 tierces of Falls.

HANSON-DESIGNED FOR TODAY'S NEEDS

Distinctive New Fish Boat Designs—



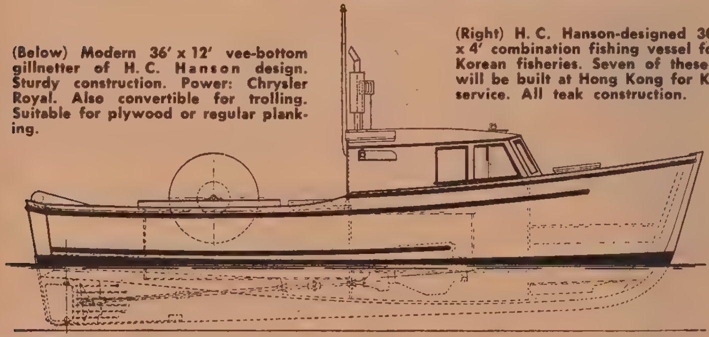
Domestic and Foreign Inquiries for Plans and Specifications for All Types of fishing vessels Acknowledged Promptly.

Plans Available of Proven Boats All Types and Sizes, Steel and Wood.

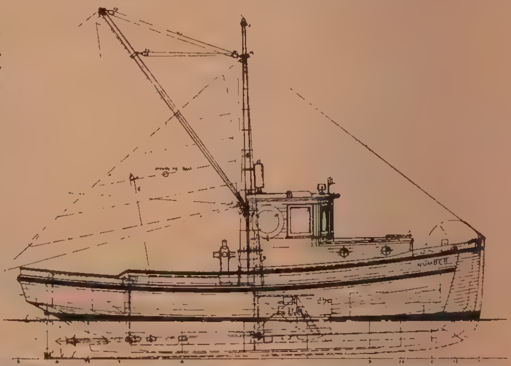
●

(Left) This 73'6" x 19'7" x 10'7½" combination welded steel vee-bottom fishing vessel of H. C. Hanson design is for the Indonesian government. Suitable for dragging, seining and long-lining.

(Below) Modern 36' x 12' vee-bottom gillnetter of H. C. Hanson design. Sturdy construction. Power: Chrysler Royal. Also convertible for trolling. Suitable for plywood or regular planking.

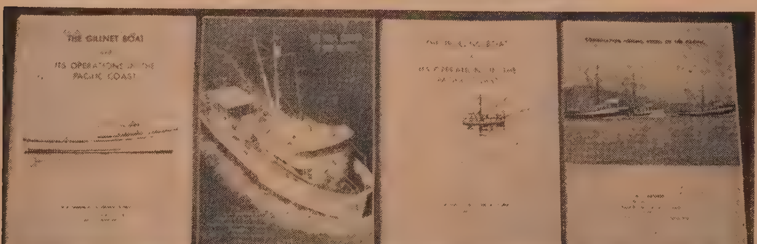


(Right) H. C. Hanson-designed 30' x 9' x 4' combination fishing vessel for the Korean fisheries. Seven of these craft will be built at Hong Kong for Korean service. All teak construction.



(Above) 42' x 12' x 6' troller hull of H. C. Hanson design. Suitable for long-lining for salmon, halibut, Albacore and market fish. Vessel is of wood construction.

(Above) "M.V. PENGUIN" — 130' x 27' x 17'. Power: 400-hp. Union diesel. This fine craft of H. C. Hanson design is available as a reefer ship or general service boat.—Wood construction.



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and
ITS OPERATIONS ON THE
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H. C. HANSON, NAVAL ARCHITECT

102 COLMAN FERRY TERMINAL SEATTLE 4, WASHINGTON ELiot 3549

While it is true that the 1954 pack of mild cured salmon was short because of scarcity of fish, it must be recognized that the low pack continued a trend which has been manifest for some years. This undoubtedly reflects to a considerable degree the growing swing of smokers, particularly in the metropolitan centers of the Atlantic states, to use frozen Kings for smoking.

This practice of using frozen salmon has been evident to a steadily increasing degree for a number of years, and appears due to have continuing influence in the industry.

It is of course true that shortage of salmon suitable for curing also means a shortage of fish suitable for freezing for ultimate smoking.

Annual OREGON TROLL SALMON LANDINGS

(Pounds)

Year	Columbia River		Coastal Ports		State Total		Oregon Total Both	Year
	Chinook	Silver	Chinook	Silver	Chinook	Silver		
1942	323,769	100,843	320,766	926,936	644,535	1,027,779	1,672,314	1942
1943	157,814	125,618	247,349	534,813	405,163	660,431	1,065,594	1943
1944	457,721	286,637	815,254	1,184,605	1,272,975	1,471,242	2,744,217	1944
1945	1,012,524	231,774	979,105	950,614	1,991,629	1,183,388	3,174,017	1945
1946	1,063,943	478,100	1,522,452	935,182	2,586,395	1,413,381	3,999,776	1946
1947	626,276	598,735	1,948,432	1,278,140	2,574,708	1,876,875	4,451,583	1947
1948	532,788	409,015	984,613	932,557	1,517,401	1,341,572	2,858,973	1948
1949	223,938	163,380	1,136,868	1,126,669	1,360,806	1,290,049	2,650,855	1949
1950	291,386	365,540	731,395	883,407	1,022,781	1,248,947	2,271,728	1950
1951	464,973	589,697	2,135,752	1,688,096	2,600,725	2,277,793	4,878,518	1951
1952	821,404	532,224	2,262,898	2,242,232	3,084,300	2,774,456	5,858,758	1952
1953	518,228	368,730	1,404,483	1,937,542	1,922,711	2,306,272	4,228,983	1953
1954*	515,186	237,081	3,256,666	992,871	3,771,852	1,229,952	5,001,804	1954

* Total for first 9 months only.

PACIFIC MILD CURED SALMON PACK

(IN TIERCES OF 825 LBS. NET WEIGHT)

YEAR	Alaska	British Columbia	Puget Sound	Columbia River	Oregon Coast	California Coast	Sacramento River	Kamchatka	Recapitulation		ANNUAL TOTALS	YEAR
									Kings	Silvers		
1900	. . .	. . .	. . .	1,275	. . .	. . .	950	. . .	Segregation of pack as to species not available for years prior to 1923.	. . .	2,225	1900
1901	67	. . .	600	3,000	. . .	. . .	3,100	. . .		. . .	6,767	1901
1902	67	. . .	425	4,213	188	504	2,325	. . .		. . .	7,722	1902
1903	8	. . .	824	6,725	. . .	354	3,600	. . .		. . .	11,511	1903
1904	34	. . .	1,250	9,088	. . .	448	4,719	. . .		. . .	15,539	1904
1905	189	1,175	3,000	9,805	415	310	2,979	. . .		. . .	17,873	1905
1906	1,126	957	. . .	8,000	740	685	2,177	. . .		. . .	13,685	1906
1907	1,657	1,993	2,060	6,070	860	722	4,102	. . .		. . .	17,464	1907
1908	1,378	1,060	. . .	4,960	. . .	252	3,243	. . .		. . .	10,893	1908
1909	2,292	1,560	2,109	5,540	664	991	5,111	. . .		. . .	18,267	1909
1910	3,357	1,638	2,435	7,922	1,465	75	5,516	. . .		. . .	22,408	1910
1911	3,164	2,006	2,745	8,185	1,377	770	2,011	. . .		. . .	19,758	1911
1912	5,245	1,380	3,013	5,824	3,479	100	3,274	. . .		. . .	22,315	1912
1913	7,440	2,125	3,631	5,746	2,681	550	4,789	. . .		. . .	26,952	1913
1914	3,872	3,182	1,934	5,205	457	1,476	1,829	. . .		. . .	17,955	1914
1915	2,966	1,119	2,235	4,078	333	945	1,630	. . .		. . .	13,306	1915
1916	4,475	767	1,755	4,656	194	1,069	650	. . .		. . .	13,566	1916
1917	2,955	429	1,063	1,886	. . .	300	1,508	. . .		. . .	8,181	1917
1918	4,234	729	1,093	1,804	275	721	1,913	. . .		. . .	9,869	1918
1919	6,803	1,173	2,423	3,328	148	2,381	2,355	. . .		. . .	18,611	1919
1920	2,770	1,116	2,036	2,275	102	1,793	1,345	. . .		. . .	11,437	1920
1921	3,966	1,076	4,517	3,051	160	1,251	812	. . .		. . .	14,833	1921
1922	5,158	2,253	4,727	1,621	162	550	1,195	. . .		. . .	15,666	1922
1923	4,075	1,819	5,799	1,769	176	1,229	606	. . .	15,129	344	15,473	1923
1924	6,069	2,969	6,409	2,320	286	2,624	1,291	. . .	21,476	492	21,968	1924
1925	7,119	3,098	5,600	2,746	547	2,241	1,523	500	22,530	844	23,374	1925
1926	5,781	2,183	4,087	1,055	1,205	929	1,767	650	16,585	1,072	17,657	1926
1927	8,982	2,689	5,160	951	918	927	1,125	854	19,390	2,216	21,606	1927
1928	5,784	2,676	4,304	1,305	2,163	1,686	179	783	14,051	4,046	18,880	1928
1929	5,477	3,016	4,311	1,969	1,787	1,160	155	1,083	15,749	3,209	18,958	1929
1930	5,331	2,630	4,361	1,068	102	1,184	124	2,144	16,049	895	16,944	1930
1931	4,123	1,083	5,700	1,251	372	1,027	164	712	13,862	570	14,432	1931
1932	5,560	1,542	3,650	2,012	1,119	752	294	640	13,443	2,126	15,569	1932
1933	4,852	3,097	3,527	2,431	660	1,392	37	340	15,295	1,041	16,336	1933
1934	4,908	4,657	3,882	1,855	270	1,572	5	776	16,960	965	17,925	1934
1935	5,487	2,665	3,563	1,730	210	2,090	439	670	15,450	1,404	16,854	1935
1936	5,222	1,642	4,897	1,138	68	1,939	366	840	15,611	495	16,106	1936
1937	6,373	4,055	2,775	604	. . .	1,026	49	778	15,552	108	15,660	1937
1938	7,786	3,128	3,657	1,292	387	627	945	787	16,451	2,158	18,609	1938
1939	7,724	2,802	2,937	501	20	417	119	600	14,905	224	15,129	1939
1940	5,210	693	3,531	33	. . .	711	308	11	10,283	714	10,497	1940
1941	8,862	1,474	3,561	229	. . .	360	15	. . .	14,174	302	14,501	1941
1942	6,748	1,055	2,494	20	. . .	. . .	. . .	. . .	10,241	76	10,317	1942
1943	3,869	811	1,022	21	. . .	166	. . .	. . .	5,278	611	5,889	1943
1944	3,518	2,019	959	16	. . .	1,259	1,329	. . .	7,969	*1,050	9,100	1944
1945	7,763	1,209	1,790	159	. . .	*1,065	1,570	. . .	10,843	*3,200	13,556	1945
1946	6,824	1,975	2,170	96	. . .	. . .	†2,764	. . .	13,216	613	13,829	1946
1947	5,919	1,675	2,129	99	. . .	†	919	. . .	10,631	110	10,741	1947
1948	5,076	1,025	2,282	77	. . .	. . .	. . .	. . .	8,490	36	8,456	1948
1949	4,449	1,177	2,049	86	. . .	891	. . .	. . .	8,625	27	8,652	1949
1950	4,809	889	3,264	90	. . .	1,214	. . .	. . .	10,109	157	10,266	1950
1951	4,671	897	2,436	20	. . .	1,200	. . .	. . .	9,150	74	9,224	1951
1952	3,489	752	2,318	4	. . .	493	. . .	. . .	7,052	. .	7,052	1952
1953	4,484	742	2,688	30	. . .	1,033	. . .	. . .	9,209	75	8,977	1953
1954	4,003	645	2,155	. . .	. . .	1,300	. . .	. . .	7,790	313	8,103	1954

NOTE: – Mild cured Falls not included. * Estimated segregation. In 1945 the Silver category includes 200 tierces of Sockeyes.
† Segregation as to district not available.

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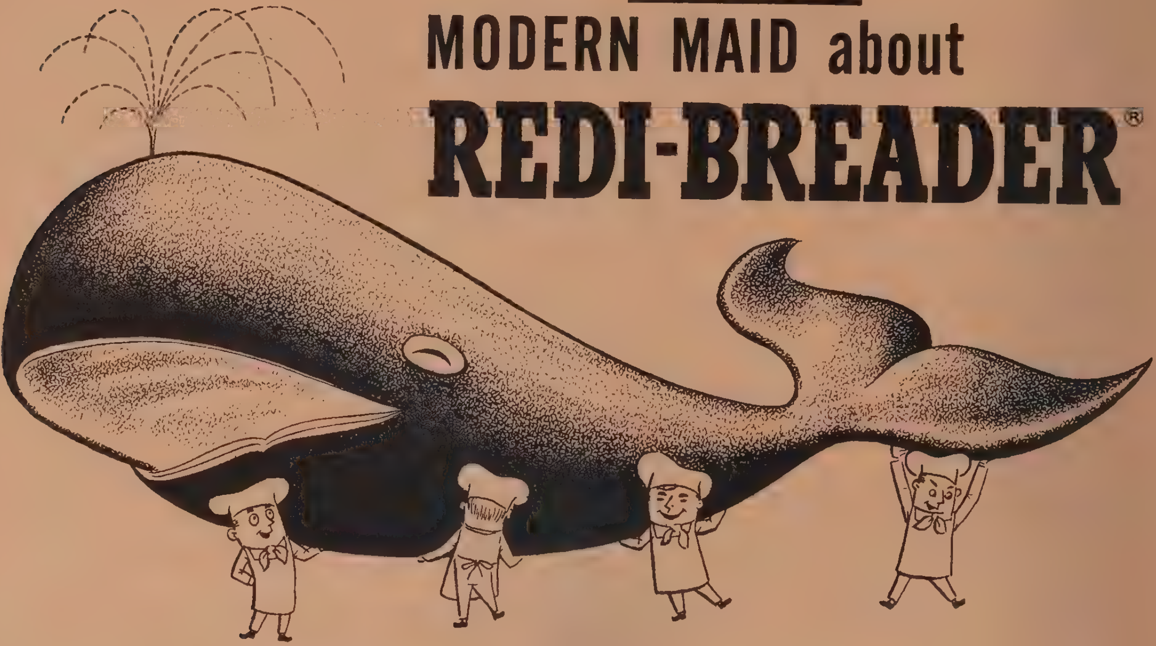

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Pacific Canned Salmon Packs and Values

Packs reduced to basis of full cases of 48 lbs. net. Values calculated from best data available.

Year	Alaska		Washington		Oregon		California		U. S. Total		British Columbia		Grand Total	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value
		$		$		$		$		$		$		$
1939	5,239,211	35,110,571	478,246	3,944,000	251,070	3,640,898	...	...	5,971,527	42,695,469	1,539,070	10,449,945	7,510,597	53,145,414
1940	5,028,378	31,828,451	222,808	2,825,000	297,716	4,129,220	...	...	5,548,902	38,782,681	1,467,227	11,427,923	7,016,129	50,209,908
1941	6,906,503	57,466,702	491,311	6,162,000	399,840	5,925,444	1,125	13,500	7,798,779	69,567,646	2,248,870	18,406,545	10,047,649	87,974,191
1942	5,089,109	48,677,509	366,065	6,909,000	397,331	6,890,162	...	...	5,852,515	62,476,671	1,811,560	20,050,238	7,664,075	82,526,909
1943	5,396,509	58,579,194	149,175	2,309,000	130,707	2,857,246	767	16,000	5,677,158	63,761,440	1,258,221	11,673,469	6,935,379	75,434,909
1944	4,877,796	51,606,544	81,490	1,774,000	159,783	3,445,244	864	17,660	5,119,943	56,843,448	1,097,558	11,479,093	6,217,521	68,322,541
1945	4,338,692	44,528,964	414,258	4,845,000	155,292	3,287,812	2,755	38,000	4,913,335	52,699,776	1,739,311	18,409,962	6,652,646	71,109,738
1946	3,971,109	58,667,561	385,437	13,020,000	206,563	7,165,645	5,034	153,000	4,568,149	79,006,206	1,348,138	17,532,462	5,916,287	96,538,668
1947	4,302,466	91,297,885	957,429	21,420,000	338,852	11,133,690	13,917	513,000	5,612,664	124,364,575	1,505,157	24,900,000	7,117,379	149,264,575
1948	4,014,891	96,528,730	484,102	12,685,858	314,556	10,956,513	11,417	366,095	4,824,966	120,537,196	1,308,137	26,579,000	6,133,103	147,116,196
1949	4,391,591	81,263,168	973,740	17,481,282	158,472	4,665,290	1,113	21,240	5,524,916	103,430,980	1,436,464	27,654,489	6,961,380	131,085,469
1950	3,272,643	81,403,511	670,341	18,285,000	176,063	6,193,000	...	...	4,119,047	105,881,511	1,482,560½	30,155,177	5,602,056½	138,885,502
1951	3,631,918	84,649,330	906,252	21,357,974	175,091	6,631,198	...	...	4,713,261	112,638,502	1,955,475	46,261,080	6,668,736	158,899,582
1952	3,574,191	76,357,016	749,591	17,122,352	140,565	4,784,421	703	20,292	4,455,022	99,636,808	1,293,435	27,751,435	5,741,490	127,388,243
1953	2,934,667	60,987,334	848,422	18,680,750	127,808	4,063,675	436	15,425	3,911,333	83,747,184	1,821,269	35,060,600	5,732,602	118,807,784
1954	3,245,889	69,079,653	845,652	22,563,342	93,053	2,473,719	314	9,503	4,184,908	94,126,217	1,742,724	39,293,176	5,927,632	133,419,393

1954 -EUREKA AREA FRESH FISH LANDINGS- 1954

SPECIES	POUNDS												
	Nov. '53	Dec. '53	Jan. '54	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
Anchovies	...	...	...	...	...	...	...	...	...	400	...	...	400
Flounder	500	300	500	300	26,700	24,900	12,400	1,300	3,700	12,300	4,900	9,100	96,900
Halibut	...	...	...	...	...	...	1,000	300	22,400	6,800	300	100	30,900
Kingfish	...	...	...	...	...	6,300	...	...	...	...	...	..	6,300
Herring	...	...	...	...	...	...	...	...	...	100	...	...	100
Lingcod	4,000	2,900	1,300	2,200	2,300	...	7,400	12,400	26,000	37,500	29,300	20,100	145,400
Perch	3,00	...	...	...	100	13,100	...	4,000	9,700	1,500	1,000	400	32,800
Rockfish	23,200	30,700	13,200	145,800	145,200	103,600	79,000	131,000	105,500	138,600	105,800	148,500	1,170,100
Sablefish	6,100	14,600	1,500	2,200	4,600	40,300	13,800	62,800	77,900	106,900	88,700	103,300	522,700
Sand Dabs	1,500	200	1,600	5,400	3,300	8,500	6,500	3,700	18,800	10,100	7,500	5,000	72,100
Smelt	...	...	...	...	...	...	...	...	...	1,100	45,000	...	46,100
Sole: Dover	162,200	146,000	15,000	8,000	143,800	297,600	461,700	383,700	343,100	417,500	302,400	296,800	2,977,800
En English	15,500	12,500	15,900	67,000	23,700	97,500	84,500	22,200	98,000	58,200	58,900	58,700	612,600
French	...	...	...	...	...	3,900	1,200	600	...	1,300	3,000	5,700	15,700
Petrale	38,700	180,300	88,400	91,000	9,800	46,700	110,200	58,500	50,600	86,000	98,700	52,100	911,000
Rex	12,200	11,300	10,800	20,500	9,300	18,700	26,200	15,300	47,200	30,700	25,400	34,000	261,600
Sand	...	...	800	...	1,300	2,000	...	...	700	...	...	...	4,800
Arrowtooth	...	200	5,100	14,100	...	7,400	19,100	53,900	23,500	37,100	36,600	58,900	255,900
Unclassified	...	200	...	1,200	...	..	...	...	460,300	...	...	2,300	464,000
Salmon	...	...	...	...	...	...	146,900	345,600	...	161,900	10,400	...	664,800
Tuna: Albacore	...	..	...	...	...	...	...	...	...	17,500	33,600	3,700	54,800
Turbot	400	300	1,100	18,200	24,100	5,800	6,100	200	9,000	...	...	...	65,200
Crabs	105,500	258,600	294,100	206,800	175,200	128,900	34,100	3,100	1,100	...	...	...	1,207,400
Whitebait	...	...	300	600	1,500	10,500	4,900	2,500	6,600	4,200	...	500	31,600
Miscel laneous	18,300	56,800	17,100	15,400	15,400	29,000	12,500	35,600	26,400	36,000	21,500	47,300	331,300
TOTAL	391,100	714,900	466,700	598,700	586,300	844,700	1,027,500	1,136,700	1,330,500	1,165,700	873,000	846,500	9,982,300

WASHINGTON RAZOR CLAM PRODUCTION

YEAR	COPALIS BEACH (Pounds)			GRAYLAND BEACH (Pounds)			LONG BEACH (Pounds)			KALALOCK, etc.	Total Catch All Beaches (Pounds)
	# of Digs	Total Catch	Per Dig	#of Digs	Total Catch	Per Dig	# of Digs	Total Catch	Per Dig	Total Catch-Pounds	
1937	20,695	546,486	26.4	9,026	285,317	31.6	2,986	99,591	33.4	46,478	997,872
1938	37,064	1,366,441	36.9	20,765	882,619	42.5	9,410	364,383	38.7	44,670	2,650,355
1939	23,903	846,633	35.4	11,182	433,796	38.7	11,321	653,992	57.7	30,692	1,965,113
1940	25,343	604,338	23.8	13,582	347,435	25.5	25,115	1,159,123	46.1	14,886	2,125,782
1941	12,389	406,393	32.8	2,643	111,819	42.3	3,307	222,129	67.2	806	741,147
Reserve	7,965	347,693	43.7	——	——	——	——	——	——	——	——
1942	5,088	143,148	28.1	814	26,283	32.3	3,941	174,104	44.2	*	343,535
1943	5,284	164,907	31.2	1,005	24,728	24.1	799	20,627	25.8	*	210,262
1944	8,485	409,374	48.2	2,705	105,425	38.9	2,651	108,030	40.7	*	622,829
1945	14,519	1,124,965	77.5	5,289	512,298	96.9	4,255	418,673	98.4	1,235	2,057,171
1946	12,387	922,516	74.5	10,548	461,773	43.8	11,109	663,776	59.8	*	2,048,065
1947	16,681	1,164,321	58.5	6,564	305,122	46.5	9,105	544,657	59.7	*	2,014,100
1948	18,263	687,612	37.6	6,642	249,869	37.6	8,489	268,862	31.8	50,350	1,256,693
1949	14,496	475,649	32.8	5,412	177,227	32.7	1,220	42,169	34.5	26,686	721,731
1950	11,878	231,879	26.9	——	——	——	——	——	——	5,303	237,182
1951	14,583	700,173	48.0	——	——	——	——	——	——	——	700,173

*The small amount dug is included with Copalis Beach.

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1954 - FROZEN FILLETS - 1954

(Pounds)

	Dec. 1953	Jan. 1954	Feb.	March	April	May	June	July	August	September	October	Nov.	Total
Oregon:													
Cod, True	2,302	1,177	10,290	10,959	22,906	45,098	32,578	2,629	3,732	4,148	1,586	1,063	138,468
Lingcod	...	...	...	...	...	6,370	2,325	2,576	4,285	1,394	839	...	17,789
Ocean Perch	8,522	806	28,874	64,113	212,037	37,442	46,904	44,945	39,197	1,685	11,744	8,257	504,526
Rockfish	20,737	24,338	33,749	41,292	39,912	28,055	9,181	4,804	8,819	1,833	1,414	103	214,237
Sole: Incl. Flounder	10,366	6,716	27,118	116,771	80,310	181,046	228,778	8,982	43,741	76,782	64,198	28,583	873,391
Unclassified	...	...	...	...	...	...	...	...	...	127,870	...	...	127,870
Total Oregon	41,927	33,037	100,031	233,135	355,165	298,011	319,766	63,936	99,774	213,712	79,781	38,006	1,876,281
Washington:													
Cod, True	45,173	60,232	99,929	275,643	156,690	229,154	148,259	107,191	66,697	64,547	67,481	33,974	1,354,970
Ocean Perch	14,100	14,337	10,498	105,547	65,211	57,448	86,044	118,028	221,981	339,546	132,508	83,560	1,248,808
Rockfish	16,509	22,441	9,626	9,331	15,599	8,271	13,283	14,731	45,130	18,448	632	6,303	180,304
Sole: Incl. Flounder	78,097	88,829	162,622	85,494	139,850	169,225	99,820	109,332	185,375	87,456	99,927	106,504	1,412,531
Unclassified	...	...	600	...	...	...	...	...	...	...	...	...	600
Total Washington	164,199	198,234	300,215	501,665	410,332	514,753	376,931	379,253	542,123	526,012	307,078	242,459	4,463,254
Pacific Northwest TOTAL	206,126	231,271	400,246	734,800	765,497	812,764	696,697	443,189	641,897	739,724	386,859	280,465	6,339,535

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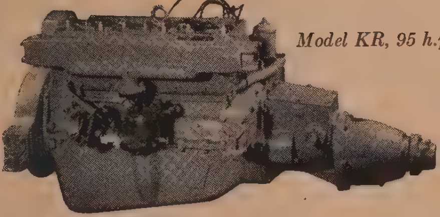
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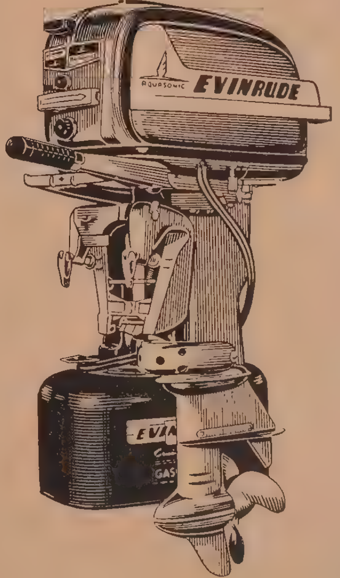

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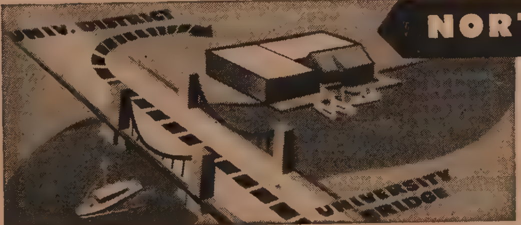

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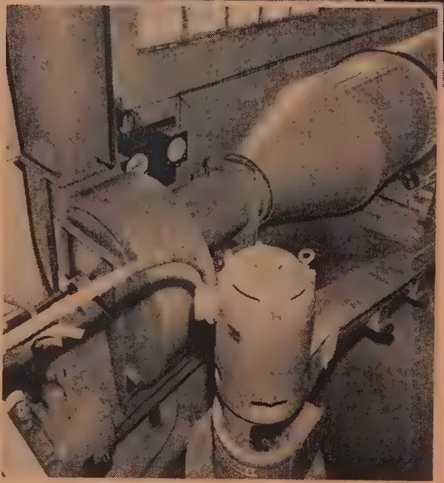

(Above) Standard Low Temperature Fish Meal Dryer in operation at Pan Pacific Fisheries, Inc., Terminal Island, California.

(Left) Dryer discharge end. All fish meal is removed from dryer through the fan for additional drying while being air-conveyed to cyclone.

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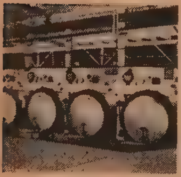

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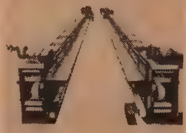

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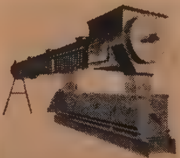

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BY-PRODUCTS

Partial recovery of California's sardine fishery from a condition of flat failure to at least moderate productivity in 1954 substantially increased the manufacture of Pacific fish oil and meal, and brought a wave of optomistic feeling.

- Yield of Pacific fish oils and meal in 1954 regained some of the ground which it had lost in previous years as result of the failures in the California sardine fishery.

The output—6,145,000 gals. of oil and 67,200 tons of meal—still was a long way from the Pacific reduction industry's better days, but it was a lot better than in recent years.

British Columbia, with its astonishingly productive herring fishery still in high gear, was the Pacific leader in the field of fish reduction.

The management policy of the Canadian Department of Fisheries with respect to the herring population of British Columbia has successfully maintained the herring resource of the province at a high level for many years, winning recognition for its extraordinary effectiveness in the difficult field of herring conservation.

- *NO PERMITS*—The California industry operated during the 1955 season without benefit of permits. The Fish and Game Commission rejected applications for "open" reduction permits prior to the season's opening in August. Accordingly, all sardine products manufactured during 1954 came from cannery offal.

1954 - Pacific Coast Fish Oil and Meal - 1954

Regions	Fish Meal, Tons	Herring Oil, Gallons	Sardine Oil, Gallons	Other Fish Oils, Gallons	Total Oil Gallons	Regions
ALASKA	2,794	457,550	...	56,000	513,550	ALASKA
BRITISH COLUMBIA	30,340	3,677,820	...	252,157	1,929,977	BRITISH COLUMBIA
WASHINGTON	2,630	...	...	253,500	253,500	WASHINGTON
OREGON	1,519	...	...	51,380	51,380	OREGON
CALIFORNIA	29,917	...	795,217	601,550	1,396,767	CALIFORNIA
TOTALS	67,200	4,135,370	795,217	1,214,587	6,145,174	TOTALS

ALASKA FISH BY-PRODUCTS

(NOT INCLUDING VITAMIN OILS)

Year	Southeast Alaska			Prince William Sound			Kodiak Island Area			All Alaska		
	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons
1954	3	*	*	2	*	*	**1	...	...	6	513,550	2,794
1953	3	*	*	1	*	*	**2	**	*	5	576,845	2,401
1952	5	*	*	2	*	*	**2	*	*	9	803,467	4,590
1951	5	527,092	2,439	4	803,773	3,600	**5	109,000	632	14	1,439,865	6,671
1950	4	593,720	2,694	4	847,950	3,305	**4	1,581,514	7,695	12	3,033,184	13,694
1949	5	651,186	3,269	1	...	140	**3	16,900	199	9	686,086	3,608
1948	8	623,814	2,631	4	919,437	2,974	**7	1,959,378	7,078	19	3,501,631	12,483
1947	8	1,762,648	6,727	...	...	...	6	2,017,027	7,505	14	3,779,675	14,232
1946	5	1,359,409	6,860	2	453,962	2,066	4	1,731,536	6,942	11	3,544,907	15,868
1945	5	1,110,973	4,507	2	295,951	1,541	4	1,328,249	5,140	11	2,835,173	11,188
1944*	...	...	...	...	...	...	...	...	...	8	2,355,010	8,777
1943*	...	...	...	...	...	...	...	...	...	8	1,644,142	7,280
1942	1	60,000	700	1	62,518	270	2	770,000	2,570	4	892,518	3,540
1941	1	80,500	555	6	1,221,242	5,408	4	1,592,506	5,777	11	2,894,248	11,740
1940	1	40,000	450	6	1,290,857	4,720	3	808,822	2,973	11	2,139,679	8,143
1939	5	882,317	4,042	7	2,227,087	7,838	6	1,729,127	5,617	18	4,846,631	17,497
1938	6	951,109	4,489	6	2,403,797	8,847	4	1,224,273	3,637	16	4,593,579	16,973
1937	9	2,024,315	8,725	6	2,175,423	7,102	5	1,388,300	3,809	20	5,588,038	19,636
1936	6	1,421,470	6,487	6	1,426,323	5,546	5	975,344	3,018	17	3,823,137	15,051
1935*	...	...	...	...	...	...	...	...	...	19	3,853,243	15,818

*Data for separate areas of Alaska not available.

**Includes one on Cook Inlet.

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✓ NO SPOILAGE

The Lassen Process includes a special stabilizing treatment that insures against spoilage. This means that feed manufacturers who buy Lassen Process solubles are able to use *all* and not just a part of the fish solubles they buy.

✓ EASIER HANDLING AND MIXING

Condensed fish solubles made by the Lassen Process contain practically none of the insoluble materials which leave that wasteful sludge at the bottom of tank cars and which make unloading so difficult. Fewer insoluble materials also mean less clogging of screens during mixing.

✓ GREATER PALATABILITY

Lassen Process solubles, being superior in quality, add greater palatability to feed because they taste better, smell better and look better. *They also eliminate dust.*

LASSEN PROCESS CONDENSED FISH SOLUBLES INCREASED PROFITS 19.2%

At the Experimental Poultry Testing Laboratory of the world's largest fish cannery, newly hatched New Hampshire chicks were separated into two groups. Group I received a normal broiler-fryer ration. Group II received the same ration with Lassen Process Condensed Fish Solubles added at a level of 3%. Soybean meal and corn levels in the Group II ration were reduced to equalize protein content (21%) in both rations.

After 10 weeks the average **Group I** bird weighed **3.19 pounds**
After 10 weeks the average **Group II** bird weighed **3.56 pounds**

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PACIFIC NORTHWEST FISH BY-PRODUCTS

(Not Including Vitamin Oils)

YEAR	OREGON					WASHINGTON					YEAR
	# Active Plants	Fish Meal Tons	Sardine or Pilchard Oil, Gals.	Other Fish Oils, Gals.	Total Fish Oil, Gals.	# Active Plants	Fish Meal Tons	Sardine or Pilchard Oil, Gals.	Other Fish Oils, Gals.	Total Fish Oil, Gals.	
1954	1	1,519	...	51,380	51,380	4	2,630	...	253,500	304,880	1954
1953	2	1,607	...	53,000	53,000	4	2,690	...	169,000	169,000	1953
1952	2	744	...	19,000	19,000	4	2,217	...	138,140	138,140	1952
1951	2	1,150	...	24,000	24,000	4	2,047	...	132,638	132,638	1951
1950	3	1,260	...	23,085	23,085	5	1,032	...	110,960	110,960	1950
1949	3	...	...	26,700	26,700	5	1,754	...	111,868	111,868	1949
1948	4	1,228	114,928	...	114,928	9	3,269	...	210,923	210,923	1948
1947	4	2,040	228,558	17,626	246,184	8	4,548	44,375	201,863	246,238	1947
1946	3	1,633	120,336	13,391	133,727	10	3,730	186,690	154,733	341,423	1946
1945	3	907	...	26,000	26,000	7	3,542	78,558	158,958	237,516	1945
1944	2	1,200	...	50,000	50,000	5	901	960	64,500	65,460	1944
1943	3	1,365	32,000	26,000	58,000	6	2,901	277,627	78,000	355,627	1943
1942	2	861	25,014	8,200	33,214	6	2,003	27,787	168,600	196,387	1942
1941	4	2,969	398,235	...	398,235	11	4,168	400,102	152,389	552,491	1941
1940	5	592	114,717	...	114,717	11	1,451	35,656	145,174	180,830	1940
1939	6	3,933	833,300	...	833,300	8	4,026	672,066	103,500	775,566	1939
1938	6	2,933	718,830	...	718,830	10	4,986	1,153,339	74,392	1,227,731	1938
1937	5	2,775	689,159	...	689,159	6	3,886	808,396	125,400	933,797	1937
1936	9	2,864	481,512	70,985	552,497	4	1,710	193,467	82,800	276,267	1936
1935	7	4,763	1,104,389	39,985	1,144,374	2	1,032	...	110,960	110,960	1935

The canneries operated under the law which requires the canning of 13.5 full cases of sardines per ton of fish received. Actually, the can-out was around 20 cases per ton; and the plants were not anxious to reduce more of the fish than necessary because of the high price paid.

It generally was recognized that a reduction operation, as such, would not have been economically feasible at the market price for fish in the fall of 1954.

- *ALASKA*—Herring operations in Alaska were closely limited, only three plants running. Two of these were working on the extremely small Southeast Alaska quota of only 50,000 bbls., which imposed a serious handicap.

The one operation which ventured into the Prince William Sound field found surprisingly good fishing during the early season. However, the late season which was the bread-and-butter season for the sound through many years, again failed to develop during the period that the boats remained.

- *PUGET FLUSH*—The big Sockeye salmon run to the Fraser River meant a lot to the Puget Sound and southern British Columbia salmon reduction plants. They got volume, and as it was virtually all from Sockeyes, the oil recovery was above average.

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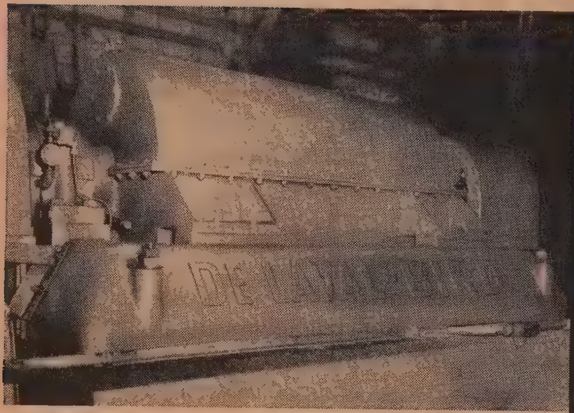

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ated this source of material for the Puget Sound and Columbia River reduction plants. The offal is collected daily from fillet plants and other fish houses processing non-fatty fish. The material generally is put through a grinder and the whole ground offal run into 5-wall paper bags. Closure is then sewed by machine and the bags frozen for storage and transportation.

• *TECHNOLOGY* — Fish by-products manufacturing technology underwent further growth and refinement on the Pacific Coast during 1954, with special attention to the manufacture of condensed solubles from stickwater, and of homogenized condensed fish. In Canada notable work was done in the drying of fish and whale solubles, and in the testing of these products in feeding.

Research also continues to be directed at the recovery of refined products from fish, notably from salmon cannery waste, in an effort to increase the economic recovery to a point where such processing would be more attractive. This is regarded as a particularly fertile field with respect to Alaska salmon cannery waste, the price of present products, balanced against the cost of recovery at remote cannery stations, leaves an economic return too slender to be truly attractive except where there are large concentrations of material.

• *GROWTH PROSPECTS*—An interesting situation arises in California in respect to the industry's future prospects — providing always, of course, that the return of the sardine continues and gathers volume.

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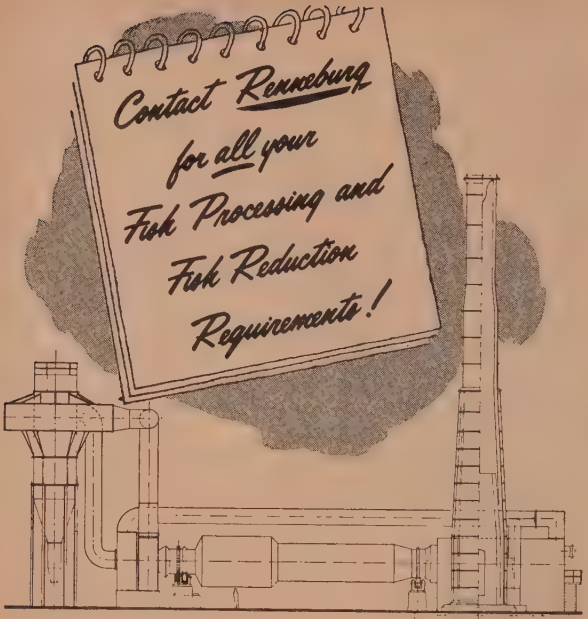
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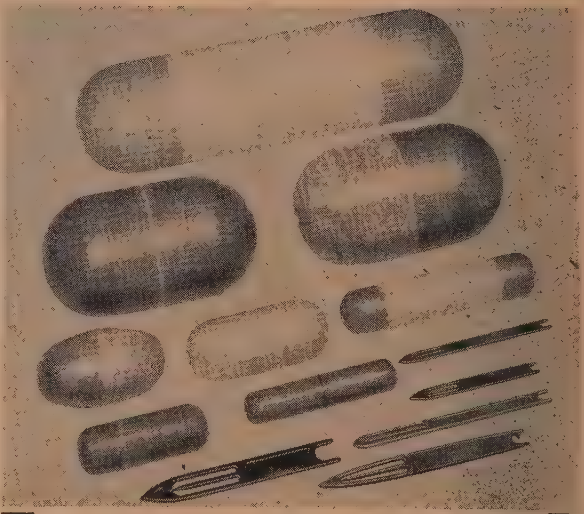

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Year	Fish Landed Tons	CANNED HERRING Cases 1-lb. Talls	1-lb. Ovals	1/2-lb. Ovals	Total Full Cases	Fresh and Bait Tons	Herring Meal Tons	Herring Oil (Imperial) Gallons
1954 Spring Season	67,045	...	...	...	...	1,195	12,478	442,747
1954 Fall Season	111,237	...	...	...	6,470	152	17,344	2,622,103
1954 Grand Total	178,282	...	...	...	6,470	1,347	29,822	3,064,850
1953 Spring Season	12,011	...	...	...	10,230	51	1,790	363,200
1953 Fall Season	132,576	...	...	...	75,312	452	21,937	2,608,399
1953 Grand Total	144,587	...	...	...	85,542	503	23,727	2,971,599
1952 Spring Season	90,236	...	...	...	2,764	1,764	16,221	1,428,206
1952 Fall Season	...	...	...	...	...	...	...	...
1952 Grand Total	90,236	...	...	...	2,764	1,764	16,221	1,428,206
1951 Spring Season	72,925	...	...	...	116,674	23,820	13,388	949,801
1951 Fall Season	107,103	...	...	...	102,536	32,340	17,059	2,320,994
1951 Grand Total	180,028	...	...	...	219,210	56,160	31,447	3,270,795
1950 Spring Season	74,621.00	...	...	...	2,475	150.34	14,604.35	988,372
1950 Fall Season	114,258.00	...	...	...	61,152	605.64	17,961.08	2,308,736
1950 Grand Total	188,879.00	...	...	...	63,627	755.98	32,565.43	3,297,108
1949 Spring Season	76,546.62	2,613	...	...	2,613	2,103.35	13,361.50	548,432
1949 Fall Season	106,259.00	1,000	74,162	225	75,387	1,051.48	16,075.10	2,317,113
1949 Grand Total	182,805.62	3,613	74,162	225	78,000	3,154.83	29,436.60	2,865,545
1948 Spring Season	87,915.01	79,128	215,050	21,829	315,007	1,589.56	12,757.87	751,064
1948 Fall Season	112,705.18	...	...	...	90,202*	554.75	18,244.07	2,019,508
1948 Grand Total	200,620.19	79,128	215,050	21,829	405,209	2,144.31	31,001.94	2,770,572
1947 Spring Season	42,006.34	250,595	176,203	4,125	430,923	3,183.05	4,109.20	200,581
1947 Fall Season	77,412.98	219,635	698,786	10,748	929,719	1,045.25	7,212.09	1,092,057
1947 Grand Total	119,419.32	470,230	874,989	14,873	1,360,642	4,228.30	11,321.29	1,292,638
1946 Spring Season	29,376.48	71,537	61,290	21,975	154,802	3,304.71	3,437.30	251,838
1946 Fall Season	67,691.61	80,281	886,889	40,802½	1,007,972½	5,718.73	4,364.25	644,777
1946 Grand Total	97,068.09	151,818	948,179	62,777½	1,162,774½	9,023.44	7,801.55	896,615
1945 Spring Season	61,906.03	80,001	127,202	55,418	262,621	3,558.05	8,350.96	490,214
1945 Fall Season	70,193.36	67,296	1,056,310	30,290	1,153,896	1,131.10	4,420.45	610,643
1945 Grand Total	132,099.39	147,297	1,183,512	85,708	1,416,517	4,689.15	12,771.41	1,100,857

*Sizes of cans not designated.

of the reduction plant which formerly operated on San Francisco Bay and on Monterey Bay have been sold, dismantled, and the equipment shipped elsewhere.

These transfers often have seen the machinery go abroad, notably to South Africa or British Columbia.

As result, the number and capacity of the reduction plants in California has been reduced to the point where flush production of the kind which was commonplace for many years, simply could not be handled.

Recovery of the sardine population, plus a return to "open reduction" permits, necessarily would require substantial investment in numerous plants.

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● Although British Columbia's whale catch was the biggest numerically in many years, in quantity of commercial production it may not have been much greater in 1954 than in the previous season.

As in other post-war years, the whale fishery off the British Columbia coast was entirely in the hands of British Columbia Packers, Ltd., which operated six killer boats, working out of Coal Harbor, northwest coast of Vancouver Island.

Another factor which offset to some extent the large numerical catch was the high proportion of Sei whales taken—134 altogether, many more than usual. According to the international statistics that govern whaling, six Seis are equivalent to one Blue whale or three Finbacks.

The Coal Harbor plant is rated one of the most fully equipped and efficient in the industry since it now has facilities for making economic use of all parts of the whale carcass. Market for whale oil continued to be depressed, but there were important developments in the sale of whale meat to processors of mink food, and about 1000 tons of frozen whale meat were shipped from Coal Harbor to the United States for sale to fur farms.

Total number of whales killed during the season was 630, compared with 514 in 1953 and 451 in 1952. By species, the 1954 catch was as follows: Blue, 11; humpback, 106; Fin, 150; Sei, 134; Sperm, 226; Bottlenose, 3.

It was a battle between *Globe 7* and *Polar 5* for fleet leadership in number of whales killed, each with 128.

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Fish Meal

(Gallons)						Year	(Tons)					
Alaska	Wash.	Oregon	Calif.	British Columbia	TOTAL		Alaska	Wash.	Oregon	Calif.	British Columbia	TOTAL
232,376	116,282	20,000	26,063	...	394,721	1916	1,594	...	100	535	...	2,229
231,142	205,511	25,000	176,293	49,784	686,730	1917	1,858	3,186	190	3,481	1,220	9,935
147,716	98,711	35,200	346,724	64,060	692,411	1918	600	1,885	95	8,734	1,977	13,291
170,340	90,921	25,000	514,262	65,945	866,468	1919	1,218	1,114	350	11,153	1,847	15,682
720,118	21,850	23,175	611,585	66,802	1,443,530	1920	3,928	352	136	8,856	466	13,738
99,948	170,008	48,000	336,738	53,640	708,334	1921	678	1,354	300	6,317	489	9,138
454,938	157,555	14,000	547,050	90,553	1,264,096	1922	1,958	1,216	40	9,027	911	13,152
915,143	135,145	24,000	951,888	196,381	2,242,557	1923	3,635	992	150	9,238	823	14,838
1,193,705	79,028	42,000	2,350,722	289,651	3,955,106	1924	5,560	607	275	15,328	1,709	23,479
2,391,832	97,890	47,400	3,150,041	1,020,607	6,707,770	1925	9,302	1,395	300	22,936	4,551	38,484
3,018,675	78,352	58,000	2,123,928	2,555,485	7,834,440	1926	12,093	822	325	15,767	10,543	39,550
2,067,041	81,801	65,000	2,618,490	3,863,347	8,695,679	1927	7,704	956	500	21,374	16,659	47,193
2,585,990	79,347	54,000	3,749,302	4,877,059	11,336,698	1928	10,713	670	425	28,390	15,331	55,529
3,415,154	131,059	62,000	6,548,126	4,066,584	14,222,923	1929	13,353	1,554	460	43,496	21,208	80,071
3,601,305	121,602	53,600	5,842,763	4,767,120	14,386,390	1930	12,847	1,046	400	36,276	17,542	68,111
2,207,686	128,769	36,000	3,924,692	3,485,287	9,782,434	1931	8,704	714	228	22,440	19,561	51,647
2,632,154	79,219	33,000	5,125,399	1,857,065	9,726,837	1932	10,168	757	143	27,500	15,450	54,018
3,195,294	111,098	33,500	10,708,448	935,582	14,983,922	1933	11,435	1,085	210	58,879	6,752	78,361
3,741,604	116,967	38,000	18,910,687	2,492,230	25,299,488	1934	14,341	876	280	95,193	12,654	123,344
3,853,243	110,960	1,144,374	20,695,423	2,644,214	28,448,214	1935	15,818	1,032	4,763	103,772	16,090	141,475
3,823,137	304,975	552,497	24,511,950	2,802,678	31,995,237	1936	15,051	1,687	2,864	126,143	21,948	167,693
5,588,038	942,548	689,159	14,823,508	3,942,576	25,985,829	1937	19,636	4,012	2,775	93,897	25,630	145,950
4,587,513	1,231,144	718,830	16,065,029	4,023,798	26,626,314	1938	17,066	4,977	2,933	97,451	21,006	143,433
4,837,298	830,480	833,300	18,980,527	2,068,779	27,550,384	1939	17,477	4,651	3,933	105,169	19,468	150,698
2,142,674	180,830	114,717	13,214,990	3,388,442	19,041,653	1940	8,144	1,528	592	86,137	31,899	128,300
2,894,248	552,491	398,235	17,677,198	3,304,657	24,290,751	1941	11,740	4,168	2,969	102,812	24,312	146,001
892,518	144,691	33,214	12,686,640	2,255,908	16,012,971	1942	3,540	1,608	861	79,003	26,474	111,486
1,644,142	586,102	58,000	14,016,179	3,738,818	20,043,241	1943	7,280	3,231	1,365	86,151	24,919	122,946
2,355,010	65,460	50,000	18,271,859	3,548,422	24,290,751	1944	8,777	901	1,200	96,853	20,852	128,583
2,835,173	221,218	26,000	12,062,111	2,875,323	18,019,825	1945	11,188	2,894	907	78,653	21,123	114,769
3,544,907	341,423	133,727	4,902,625	1,431,600	10,354,282	1946	15,869	3,826	1,633	52,895	10,561	84,784
3,779,675	200,801	246,184	2,633,604	1,778,327	8,415,449	1947	14,232	1,631	2,040	37,065	12,773	62,611
3,501,631	210,923	114,928	2,833,197	3,427,273	10,087,952	1948	12,683	3,269	1,228	44,450	31,087	92,717
668,086	207,000	26,700	6,725,255	2,880,219	10,507,260	1949	3,608	3,200	1,786	66,504	31,419	106,517
3,033,184	110,960	23,085	7,202,130	4,015,024	14,384,383	1950	13,694	1,032	1,260	70,769	34,174	120,929
1,439,865	164,000	24,000	2,735,590	4,087,136	8,450,591	1951	6,671	1,178	1,150	41,498	34,235	84,732
803,467	130,000	19,000	1,280,994	250,465	2,483,926	1952	4,590	897	744	37,149	4,764	48,144
500,713	169,000	53,000	814,221	3,823,436	5,360,370	1953	2,544	2,690	1,607	25,121	26,944	58,906
513,550	253,500	51,380	1,396,767	3,929,977	6,145,174	1954	2,794	2,630	1,519	29,917	30,340	67,200

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INDEX TO ADVERTISEMENTS

Equipment, Supplies and Service Firms

Adams Net & Twine Div., Linen Thread Co., Inc. 54
Alaska Steamship Co. 76
Albertoli, John 188
Albina Eng. & Mchne Wks 78
Allis-Chalmers Mfg. Co., Buda Div. Outside Back Cover
American Can Co. 18, 19
American Marine Paint Co. 34
Amerio Contact Plate Freezers Inc. 212
Archer-Daniels-Midland Co. 121
Astoria Marine Construction Co. 242
Atlas Paint & Varnish Co. 78
Atwood Adhesives, Inc. 244
Auburn Fish Hook Co., Inc. 206
Auto Engine Works, Inc. 4

Baier & Assoc., L. S. 12
Baker Engr. Corp. 126
Bays & Co., Cecil 137
Bibb Manufacturing Co. 138
Bludworth Marine 66
Brownell & Co., Inc. 189
Brush Aboe, Inc. 37
Bryant's Marina 235
Buda Co., Div. Allis-Chalmers Mfg. Co. Outside Back Cover
Bulman Bros. 97
Byron Jackson Co., PB Div. 28

California Press Mfg. Co. 240
Carroll Co., Inc., Talbott 102
Carruthers Co., E. H. 120
Caterpillar Tractor Co. 59
Chisolm-Ryder Co. of Pa. 144
Chris-Craft Corp., Marine Engines 72
Chrysler Corp., Marine Engines 65
Cincotta Bros. 184
Colberg Boat Works 190
Colman Bldg. 164
Colorado Fuel & Iron Corp., Wickwire Spencer Steel Div. 39
Columbia-Geneva Div., U. S. Steel Corp. 67
Columbian Bronze Corp. 178
Consolidated Net & Twine Co. 79, 189
Continental Can Co. 50, 51
Crown Zellerbach Corp., Western Waxed Paper Div. 27
Curtis & Tompkins, Ltd. 244
Cyclone Fence Dept., U. S. Steel Corp. 188

DeFever, Arthur 244
De Laval Separator Co. 240
Detroit Diesel Div., General Motors Corp. 53
Diamond Ice & Storage Co. 220
DuPont de Nemours & Co., Inc., E. I. 69

Ederer Div., Linen Thread Co., Inc. 17
Edwards Co., E. H. 10
Electric Storage Battery Co. Inside Back Cover
Enterprise Eng. & Mchny Co. 26
Enterprise Mfg. Co. 28
Evinrude Motors 203

Fairbanks, Morse & Co. 23
Federal Propellers 38
Fibreboard Products Inc. 63
Fireman's Fund Group 47
Fitler Co., Inc., Edwin H. 162
Flohr & Co. Metal Fabricators 162
Forster Shipbldg. Co. Inc. 244
Freeman, Doc 234
Fremont Electric Co. 206

General Motors Corp., Detroit Diesel Div. 53
General Petroleum Corp. 29
General Testing Lab. Ltd. 245
Gigy & Assoc., Inc., M. J. 12
Golden Dipt Div., Meletio Seafood Co. 201
Goodrich Co., Sponge Products Div., B. F. 70
Gray Marine Motor Co. 30
Grove Processing Equipment 244
Gunderson Bros. Engr. Corp. 56

Hansen & Rowland Inc. 35
Hanson, H. C. 230
Harnischfeger Corp. 33
Hiller, Paul W. 244
Hutchison y Asoc., S. A., Wm. H. 187

International Nickel Co., Inc. 34

Johnson Co., Geo. A. 8
Johnson Motors 61
Jordan Co. 244
Jules Engine & Equip. Co. 240

Kohlenberger Engr. Corp. 187
Kolstrand Mfg. Co. 234

Larson Boat Shop, Al 244
Lassen Process, The 238
Leslie Salt Co. 38
Linen Thread Co., Inc. 49
Long Beach Salt Co. 184
Longview Fibre Co. 25
Luthi Machinery & Engr. Co., Inc. 126

Mailler Searles, Inc. 44
Marathon Corp. 218
Marine Hardware Co. 126
Marine Office of America 43
Marine Products & Engr. Co. 12
Marine Products Co., Pumps 78
Markey Machinery Co. Inc. 178
Martinac Shipbldg. Corp., J. M. 13
Mathews Conveyer Co. West Coast 174
McLaughlin Co., Inc. H. G. 243
Meletio Seafood Co., Golden Dipt Div. 201
Michigan Wheel Co. 28
Modern Maid Food Products, Inc. 232
Moffitt Inc., Lucian Q. 2
Monk, Edwin 234
Murphy Diesel Co. 11
Murray-Latta Machine Co., Ltd. 224

National Steel & Shipbldg. Corp. 244
National Supply Co., Engine Div. 21, 64
N C Marine 14
Nordberg Mfg. Co. 41
Nordby Supply Co. 167
Northern Commercial Co. 14
Northwest Instrument Co., Inc. 12

Onan & Sons Inc., D. W. 168

Pacific Marine Supply Co. 9
Pacific National Bank of Seattle 38
Pacific Tel & Tel Co. 184
Pacific Towboat & Salvage Co. 244
Pacific Work Boat 170
Paperbox Corp. 202
Pauls Fish Net Div., Linen Thread Co., Inc. 45
PB Div., Byron Jackson Co. 28
Pelican Cold Storage Co. 208
Petersburg Cold Storage Co., Inc. 234
Pettit Paint Co., Inc. 5
Puckett Co., The 164
Puget Sound Engr., Inc. 234

Quality Pack Control Co. 129

Radiomarine Corp. of America 72
Raytheon Mfg. Co., Equip. Sales Div. 58
Readers Bookshelf 164
Renneburg & Sons Co., Edw. 242
Roebling's Sons Co., John A. 32
Rooney Machine Co. 64
Rudd & Cummings 224

San Diego Marine Constr. Co. 140
Schmidt Lithograph Co. 148, 149
Scripps Motor Co. 48
Seaside Supply Stores, Inc. 132
Seattle-First National Bank 46
Seattle Marine & Fishing Supply Co. 192
Shepherd Son & Co., J. H. 242
Shepherd Marine 136
Skagit Steel & Iron Wks 2
Smith Cannery Machines Co. 60
Snow-Nabstedt Gear Corp. 213
Sperry Gyroscope Co. 56
Sponge Products Div., B. F. Goodrich Co. 70
Standard Oil Co. 40
Standard Steel Corp. 236
Starr Net Co., A. M. 79
Stay-Tite Products Co. 216
Sudbury Laboratory 178
Sunset Line & Twine Co. 178
Sweeney Cooperage Ltd. 228

Tacoma Boatbldg Co., Inc. 7
Techkote Co., Inc. 184
Terminal Testing Lab., Inc. 245
Tower Co., A. J. 46
Tubbs Cordage Co. 62
Twin Disc Clutch Co. 210

Union Oil Co. 68
United States Motors Corp. 66
United States Rubber Co. 32
United States Steel Corp.
  Columbia-Geneva Div. 67
  Cyclone Fence Dept. 188
Universal Canning Machinery Co. 142
Universal Motor Co. 173

Washington Iron Works 46
Western Canner & Packer 16
Western Waxed Paper Div. Crown Zellerbach Corp. 27
White & Sons, Inc., Wilfrid O. 168
Wickwire Spencer Steel Div., CF&I 39
Woolsey Paint & Color Co. Inc. 55

Canners, Packers and Distributors

Alaskan Glacier Sea Food Co. 204
Alioto Fish Co., F. 220
Anderson & Coltman Ltd. 22
Anderson & Miskin, Ltd. 98
Annette Islands Canning Co. 42
Atlin Fisheries, Ltd. 86

Barbey Packing Corp. 158
Beegle Packing Co. 154
Bell-Irving & Co., Ltd., H. 20
Birks-Crawford Ltd. 156
Booth Co., Inc., F. E. 144
Booth Fisheries Corp. 3
Bornstein Seafoods, Inc. 208
Boyd-Collins Co. 184
Breast-o'-Chicken Tuna, Inc. 116
British Columbia Packers Ltd. 57
Buchan & Heinen Packing Co. 245
Bunzen & Davis 228

California Packing Corp. 24
Calkins & Burke Ltd. 176
Camillo, J. J. 234
Canadian Fishing Co. Ltd. 102
Central Fish & Oyster Co. 204
Chignik Fisheries Co. 56
Coast Fisheries, Div. Quaker Oats Corp. 134
Columbia River Packers Assn., Inc. 106
Copper River Packing Co. 158

Dehn & Co., Inc. 162
Deming & Gould Co. 90
Dooms Co., Wm. O. 204
Doty Fish Co. 86
Dressel-Collins Fish Co. 234
Durst & Co., Arthur E. 160

Eardley Fisheries Co. Inc. 208
Emard Packing Co., Inc. 167
Engstrom Bros. 216

Farrell & Co., James 239
Farwest Fishermen Inc. 4
Fidalgo Island Packing Co. 20
Fishermen's Federation, Inc. 222
Fishermen's Packing Corp. 152
Franco-Italian Packing Co. 136
Frohman & Sons, L. H. 78

Gavin Bros., Inc. 97
Gosse Co., F. A. 92
Griffith-Durney Co. 12

Halferty & Co., Inc., G. P. 82
Hamlin Assoc., E. H. 176
Harbor Fisheries 190
Harris Co. Inc., P. E. 80
Hawaiian Tuna Packers, Ltd. 122
Ivanof Bay Packing Co. 108

Jack Brokerage Co., E. C. 224
Janson Co., Nicholas J. 224
Jones-Pratt Co., Inc. 244
Jones, Weismann & Co. 97
Kadiak Fisheries Co. 36

Kayler-Dahl Fish Co. 222
Kelley-Clarke Co. 88
Ketchikan Packing Co. 167
Koulouris & Casaretto 208

Lantz Co., A. R. 224
Lazio Fish Co. Inc., Tom 216
Libby, McNeill & Libby 15
Los Angeles Smoking & Curing Co. 204

Main Fish Co., Inc. 206
Marine Products Co. 198
Marquardt & Co., Inc., Arthur C. 176
McCallum-Legaz Fish Co., Inc. 220
McGovern & McGovern Inside Front Cover
Meinrath Brokerage Co. 158
Meredith Fish Co. 6
Millerd & Co., Francis 156
Morley Sales Co. 233
Morse Co., A. H. 233

Nelson Bros. Fisheries Ltd. 156
New England Fish Co. 86
Nicholls Co. Ltd., J. W. 228
Norfish Sales Co. 216
North Pacific Seafoods 108
Northern Products Corp. 228

Ocean Beauty Sales Co. 6
Oceanic Fisheries Co., Inc. 228
Oceanic Sales Co. 31, 94
Orica Trading Co. 126, 234
Oxenburg Bros. 224

Pacific American Fisheries, Inc. 90
Paladini, Inc., A 214
Pan-Pacific Fisheries Inc. 128
Parks Canneries 108
Parks Canning Co., Inc. 108
Parks Co., Inc. H. M. 108
Parrott & Co. 158
Paver & Assoc., Inc., Paul 234
Peres & Co., Jacob J. 158
Peterson Co., Frank B. 154
Point Adams Packing Co. 192
Portland Fish Co. 6
Powell & Russell 233
Preiswerck Ltd., K. J. 156
Puget Sound Brokerage Co. 190

Quaker Oats Co., Coast Fisheries 134

Red Salmon Co. 154
Salmon & Tuna Sales Co. 160
San Juan Fish. & Pack. Co. 204
Shafer-Haggart, Ltd. 244
Shiel & Co., Walter P. 84
Sidwell & Co., Ltd. 162
Simpson, Roberts & Co., Ltd. 176
Skinner & Eddy Corp., Inc. 100
Sloan Co., R. M. 222
South Coast Fisheries, Inc. 187
South Pacific Canning Co. 120
Standard Fisheries Corp. 190
Star-Kist Foods, Inc. 113, 114
Stix, Inc., Robert L. 162
Storfold & Grondahl Packing Co. 243
Sun-Pacific, Inc. 126

Todd & Sons, Ltd., J. H. 176
Towns Ltd., E. A. 241
Trubenbach & Scheffold, Inc. 176
Twin City Fishermen's Coop Assn., Inc. 190

Union Fish Co. 190
Union Fishermen's Coop Packing Co. 31, 94

Van Camp Sea Food Co., Inc. 124
Vita Food Products, Inc. 52

Wards Cove Packing Co. 154
Washington Fish & Oyster Co., Inc. 6
Washington Laboratories, Inc. 241
Wendt, Ivar 234
Western Fisheries Co. 108
Western Fishermen, Inc. 108
Western Fishing Co. Ltd. 244
Westgate California Tuna Packing Co. 116
Whiz Fish Products Co. 173
Wiegardt Bros. 234
Wilbur-Ellis Co. 118
Wilson Co., R. S. 241

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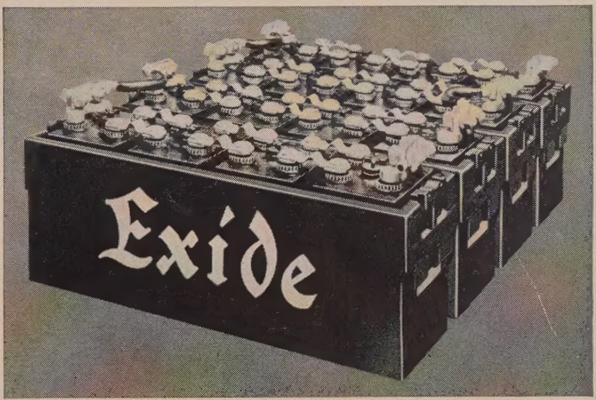

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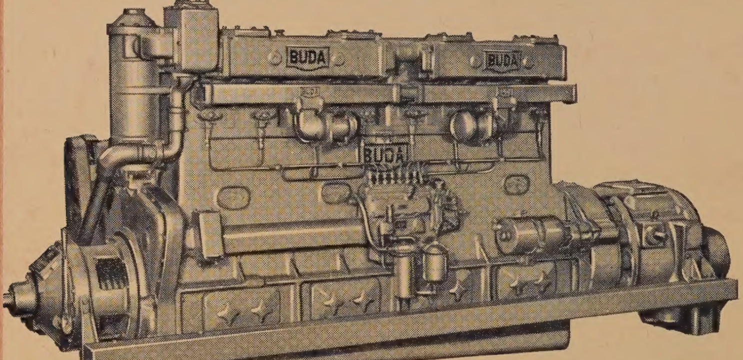
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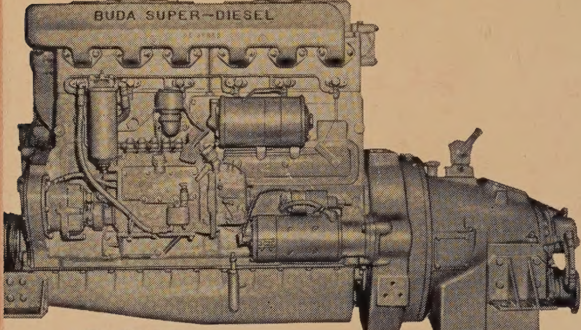
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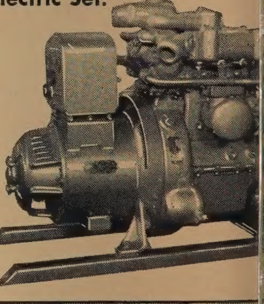

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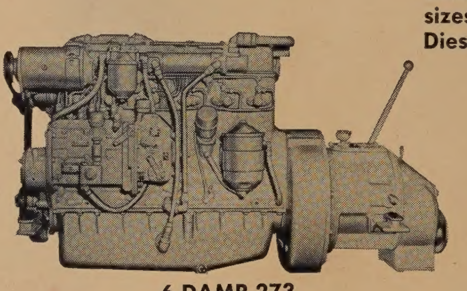
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2 BDMR 77	2	3-7/16 x 4⅛	77	15 @ 1800	17 @ 2000
4-BDMR-153	4	3-7/16 x 4⅛	153	32 @ 2000	40 @ 2400
4-BDMR-182	4	3¾ x 4⅛	182	39 @ 2000	45 @ 2400
6-BDMR-230	6	3-7/16 x 4⅛	230	48 @ 2000	60 @ 2400
6-DAMR-273	6	3¾ x 4⅛	273	74 @ 2400	85 @ 2800
6-DTMR-317	6	3⅝ x 5⅛	317	72 @ 2000	90 @ 2400
6-DTMR-468	6	4¼ x 5½	468	92 @ 1800	114 @ 2000
6-DAMR-779	6	5¼ x 6	779	148 @ 1800	185 @ 2000
6-DAMR-844	6	5¼ x 6½	844	165 @ 1800	215 @ 2000
6-DASMR-844*	6	5¼ x 6½	844	196 @ 1800	280 @ 2100
8-DAMR-1125	8	5¼ x 6½	1125	205 @ 1800	287 @ 2100
8-DASMR-1125*	8	5¼ x 6½	1125	242 @ 1800	350 @ 2100
8-DATMR-1125	8	5¼ x 6½	1125	300 @ 1800	385 @ 2000
6-DCMR-1879	6	6¾ x 8¾	1879	300 @ 1800	262 @ 1300
6-DCSMR-1879*	6	6¾ x 8¾	1879	265 @ 1200	340 @ 1300
6-DCMR-2505	8	6¾ x 8¾	2505	296 @ 1200	388 @ 1300
8-DCSMR-2505*	8	6¾ x 8¾	2505	400 @ 1200	516 @ 1300

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BM 10

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